Spokane County, Washington

Community Wildfire Protection Plan

March 2009

Vision: *Institutionalize and promote a countywide wildfire hazard mitigation ethic through leadership, professionalism, and excellence, leading the way to a safe, sustainable Spokane County.*

2007 Marshal Complex Fire, Spokane County

This plan was developed by the Spokane County Community Wildfire Protection Plan Planning committee in cooperation with Northwest Management, Inc., 233 E. Palouse River Dr., P.O. Box 9748, Moscow, ID, 83843, Tel: 208-883-4488, www.Consulting-Foresters.com.

Acknowledgments

This Community Wildfire Protection Plan represents the efforts and cooperation of a number of organizations and agencies; through the commitment of people working together to improve the preparedness for wildfire events while reducing factors of risk.

Airway Heights Fire Department
Medical Lake Fire Department
Latah Fire Department
Waverly Fire Department

Spokane County Fire District #2
Spokane County Fire District #11
Spokane County Fire District #12

Spokane International Airport Fire Department

Fairchild Air Force Base Fire Department

City of Spokane
City of Spokane Valley
City of Deer Park
City of Cheney
City of Medical Lake
City of Airway Heights
City of Liberty Lake

Town of Latah
Town of Waverly
Town of Rockford
Town of Fairfield
Town of Spangle
Town of Millwood

Unincorporated Communities
&
Local Businesses and Citizens of Spokane County

To obtain copies of this plan contact:

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Spokane County Courthouse
1116 West Broadway Avenue
Spokane, Washington

Phone: 509-477-2265
Website: www.spokanecounty.org

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Chapter I

1 Overview of this Plan and its Development

This Community Wildfire Protection Plan (CWPP) for Spokane County, Washington, is the result of analyses, professional cooperation and collaboration, assessments of wildfire risks and other factors considered with the intent to reduce the potential for wildfires to threaten people, structures, infrastructure, and unique ecosystems in Spokane County, Washington. The planning committee responsible for implementing this project was led by the Spokane County Commissioners in conjunction with the Spokane County Extension Office. Agencies and organizations that participated in the planning process included:

- City of Airway Heights
- City of Deer Park
- City of Liberty Lake
- City of Medical Lake
- City of Spokane
- City of Spokane Valley
- Northwest Management, Inc.
- Spokane City/County Emergency Management
- Spokane County Commissioners and County Departments
- Spokane County Conservation District
- Spokane County Fire Districts and Departments
- Town of Fairfield
- Town of Latah
- Town of Millwood
- Town of Rockford
- Town of Spangle
- Town of Waverly
- U.S. Fish and Wildlife Service, Turnbull National Wildlife Refuge
- Washington Department of Natural Resources
- Washington State University

In August of 2007, Spokane County solicited competitive bids from companies to provide the service of leading the assessment, developing the data, and writing the **Spokane County Community Wildfire Protection Plan**. Northwest Management, Inc. was selected to provide this service to the County. Northwest Management, Inc. is a professional natural resources consulting firm located in Moscow, Idaho. The Project Co-Managers from Northwest Management, Inc. were Mr. Vaiden Bloch and Mrs. Tera R. King.

1.1 Goals and Guiding Principles

1.1.1 Federal Emergency Management Agency Philosophy

Effective November 1, 2004, a Hazard Mitigation Plan approved by the Federal Emergency Management Agency (FEMA) is required for Hazard Mitigation Grant Program (HMGP) and Pre-Disaster Mitigation Program (PDM) eligibility. The HMGP and PDM program provide funding, through state emergency management agencies, to support local mitigation planning and projects to reduce potential disaster damages.

The local Hazard Mitigation Plan requirements for HMGP and PDM eligibility are based on the Disaster Mitigation Act (DMA) of 2000, which amended the Stafford Disaster Relief Act to promote an integrated, cost effective approach to mitigation. Local Hazard Mitigation Plans must meet the minimum requirements of the Stafford Act-Section 322, as outlined in the criteria contained in 44 CFR Part 201. The plan criteria cover the planning process, risk assessment, mitigation strategy, plan maintenance, and adoption requirements.

FEMA only reviews a local Hazard Mitigation Plan submitted through the appropriate State Hazard Mitigation Officer (SHMO). Draft versions of local Hazard Mitigation Plans are not reviewed by FEMA. FEMA reviews the final version of a plan prior to local adoption to determine if the plan meets the criteria, but FEMA will not approve it prior to adoption.

A FEMA designed plan is evaluated on its adherence to a variety of criteria.

- Adoption by the Local Governing Body
- Multi-jurisdictional Plan Adoption
- Multi-jurisdictional Planning Participation
- Documentation of Planning Process
- Identifying Hazards
- Profiling Hazard Events
- Assessing Vulnerability: Identifying Assets
- Assessing Vulnerability: Estimating Potential Losses
- Assessing Vulnerability: Analyzing Development Trends
- Multi-jurisdictional Risk Assessment
- Local Hazard Mitigation Goals
- Identification and Analysis of Mitigation Measures
- Implementation of Mitigation Measures
- Multi-jurisdictional Mitigation Strategy
- Monitoring, Evaluating, and Updating the Plan
- Implementation Through Existing Programs
- Continued Public Involvement

In Washington the SHMO is:

Mark Stewart
Washington Military Department
Emergency Management Division
Building 20, M/S: TA-20
Camp Murray, WA 98430-5122

The Spokane County Community Wildfire Protection Plan fulfills all of the requirements for a wildfire chapter of a local hazard mitigation plan.

1.1.2 United States Government Accounting Office (GAO)

Since 1984, wildland fires have burned an average of more than 850 homes each year in the United States and, because more people are moving into fire-prone areas bordering wildlands, the number of homes at risk is likely to grow. The primary responsibility for ensuring that preventative steps are taken to protect homes lies with homeowners and state and local governments, not the federal government. Although losses from wildland fires made up only 2 percent of all insured catastrophic losses from 1983 to 2002, fires can result in billions of dollars in damages.

Once a wildland fire starts, various parties can be mobilized to fight it including federal, state, local, and tribal firefighting agencies and, in some cases, the military. The ability to communicate among all parties - known as interoperability - is essential but, as GAO reported previously, is hampered because different public safety agencies operate on different radio frequencies or use incompatible communications equipment (GAO 2005).

GAO was asked to assess, among other issues, (1) measures that can help protect structures from wildland fires, (2) factors affecting use of protective measures, and (3) the role technology plays in improving firefighting agencies' ability to communicate during wildland fires.

The two most effective measures for protecting structures from wildland fires are: (1) creating and maintaining a buffer, called defensible space, from 30 to 100 feet wide around a structure, where vegetation and other flammable objects are reduced or eliminated; and (2) using fire-resistant roofs and vents. In addition to roofs and vents, other technologies – such as fire-resistant windows and building materials, chemical agents, sprinklers, and geographic information systems mapping – can help in protecting structures and communities, but they play a secondary role.

Although protective measures are available, many property owners have not adopted them because of the time or expense involved, competing concerns such as aesthetics or privacy, misperceptions about wildland fire risks, and lack of awareness of their shared responsibility for fire protection. Federal, state, and local governments, as well as other organizations, are attempting to increase property owners' use of protective measures through education, direct monetary assistance, and laws requiring such measures. In addition, some insurance companies have begun to direct property owners in high risk areas to take protective steps.

Existing technologies, such as audio switches, can help link incompatible communication systems, and new technologies, such as software-defined radios, are being developed following common standards or with enhanced capabilities to overcome incompatibility barriers. Technology alone, however, cannot solve communications problems for those responding to wildland fires. Rather, planning and coordination among federal, state, and local public safety agencies is needed to resolve issues such as which technologies to adopt, cost sharing, operating procedures, training , and maintenance. The Department of Homeland Security is leading federal efforts to improve communications interoperability across all levels of government. In addition to federal efforts, several states and local jurisdictions are pursuing initiatives to improve communications interoperability.

1.1.3 Additional State and Federal Guidelines Adopted

This Community Wildfire Protection Plan will include compatibility with the guidelines proposed in the National Fire Plan, the Washington Statewide Implementation Plan, and the Healthy Forests Restoration Act (2004). This Community Wildfire Protection Plan has been prepared in compliance with:

- The National Fire Plan; A Collaborative Approach for Reducing Wildland Fire Risks to Communities and the Environment 10-Year Comprehensive Strategy Implementation Plan–May 2002.
- National Association of State Foresters
- The Washington Statewide Implementation Strategy for the National Fire Plan–July 2002.
- Healthy Forests Restoration Act (2004)

"When implemented, the 10-Year Comprehensive Strategy will contribute to reducing the risks of wildfire to communities and the environment by building collaboration at all levels of government."
- The NFP 10-Year Comprehensive Strategy August 2001-

The objective of combining these three complimentary guidelines is to facilitate an integrated wildland fire risk assessment, identify pre-hazard mitigation activities, and prioritize activities and efforts to achieve the protection of people, structures, the environment, and significant infrastructure in Spokane County while facilitating new opportunities for pre-disaster mitigation funding and cooperation.

1.1.3.1 National Fire Plan

The goals of this Community Wildfire Protection Plan include:

1. Improve Fire Prevention and Suppression
2. Reduce Hazardous Fuels
3. Restore Fire-Adapted Ecosystems
4. Promote Community Assistance

Its three guiding principles are:

1. Priority setting that emphasizes the protection of communities and important watersheds at-risk.
2. Collaboration among governments and broadly representative stakeholders
3. Accountability through performance measures and monitoring for results.

This Community Wildfire Protection Plan fulfills the National Fire Plan's 10-Year Comprehensive Strategy and the Washington Statewide Implementation Strategy for the National Fire Plan. The projects and activities recommended under this plan are in addition to other Federal, state, and private / corporate forest and rangeland management activities. The implementation plan does not alter, diminish, or expand the existing jurisdiction, statutory and regulatory responsibilities and authorities or budget processes of participating Federal, State, and tribal agencies.

By endorsing this implementation plan, all signed parties agree that reducing the threat of wildland fire to people, communities, and ecosystems will require:

- Firefighter and public safety continuing as the highest priority.
- A sustained, long-term and cost-effective investment of resources by all public and private parties, recognizing overall budget parameters affecting Federal, State, Tribal, and local governments.
- A unified effort to implement the collaborative framework called for in the Strategy in a manner that ensures timely decisions at each level.
- Accountability for measuring and monitoring performance and outcomes, and a commitment to factoring findings into future decision making activities.
- The achievement of national goals through action at the local level with particular attention on the unique needs of cross-boundary efforts and the importance of funding on-the-ground activities.
- Communities and individuals in the wildland-urban interface to initiate personal stewardship and volunteer actions that will reduce wildland fire risks.

- Management activities, both in the wildland-urban interface and in at-risk areas across the broader landscape.
- Active forestland and rangeland management, including thinning that produces commercial or pre-commercial products, biomass removal and utilization, prescribed fire and other fuels reduction tools to simultaneously meet long-term ecological, economic, and community objectives.

The National Fire Plan identifies a three-tiered organization structure including 1) the local level, 2) state/regional and tribal level, and 3) the national level. This plan adheres to the collaboration and outcomes consistent with a local level plan. Local level collaboration involves participants with direct responsibility for management decisions affecting public and/or private land and resources, fire protection responsibilities, or good working knowledge and interest in local resources. Local involvement, expected to be broadly representative, is a primary source of planning, project prioritization, and resource allocation and coordination at the local level. The role of the private citizen is not to be under estimated, as their input and contribution to all phases of risk assessments, mitigation activities, and project implementation is greatly facilitated by their involvement.

1.1.3.2 Washington Statewide Implementation Strategy

The Strategy adopted by the State of Washington is to provide a framework for an organized and coordinated approach to the implementation of the National Fire Plan, specifically the national "10-Year Comprehensive Strategy Implementation Plan".

Emphasis is on a collaborative approach at the following levels:

- County
- State

Within the State of Washington, the counties, with the assistance of State and Federal agencies and local expert advice, will develop a risk assessment and mitigation plan to identify local vulnerabilities to wildland fire. A Statewide group will provide oversight and prioritization as needed on a statewide scale.

This strategy is not intended to circumvent any work done to date and individual counties should not delay implementing any National Fire Plan projects to develop this county plan. Rather, counties are encouraged to identify priority needs quickly and begin whatever actions necessary to mitigate those vulnerabilities.

It is recognized that implementation activities such as; hazardous fuel treatment, equipment purchases, training, home owner education, community wildland fire mitigation planning, and other activities, will be occurring concurrently with this countywide planning effort.

1.1.3.3 National Association of State Foresters

This plan is written with the intent to provide the information necessary for decision makers (elected officials) to make informed decisions in order to prioritize projects across the entire county. These decisions may be made from within the council of Commissioners, or through the recommendations of ad hoc groups tasked with making prioritized lists of projects. It is not necessary to rank projects numerically, although that is one approach, rather it may be possible to rank them categorically (high priority set, medium priority set, and so forth) and still accomplish the goals and objectives set forth in this planning document.

The following was prepared by the National Association of State Foresters (NASF), June 27, 2003, and is included here as a reference for the identification of prioritizing treatments between communities.

Purpose: To provide national, uniform guidance for implementing the provisions of the "Collaborative Fuels Treatment" MOU, and to satisfy the requirements of Task e, Goal 4 of the Implementation Plan for the 10-Year Comprehensive Strategy.

Intent: The intent is to establish broad, nationally compatible standards for identifying and prioritizing communities at risk, while allowing for maximum flexibility at the state and regional level. Three basic premises are:

- Include all lands and all ownerships.
- Use a collaborative process that is consistent with the complexity of land ownership patterns, resource management issues, and the number of interested stakeholders.
- Set priorities by evaluating projects, not by ranking communities.

Task: Develop a definition for "communities at risk" and a process for prioritizing them, per the Implementation Plan for the 10-Year Comprehensive Strategy (Goal 4.e.). In addition, this definition will form the foundation for the NASF commitment to annually identify priority fuels reduction and ecosystem restoration projects in the proposed MOU with the federal agencies (section C.2 (b)).

1. NASF fully supports the definition of the Wildland Urban Interface (WUI) previously published in the Federal Register. Further, proximity to federal lands should not be a consideration. The WUI is a set of conditions that exists on, or near, areas of wildland fuels nation-wide, regardless of land ownership.
2. Communities at risk (or, alternately, landscapes of similar risk) should be identified on a state-by-state basis with the involvement of all agencies with wildland fire protection responsibilities: state, local, tribal, and federal.
3. It is neither reasonable nor feasible to attempt to prioritize communities on a rank order basis. Rather, communities (or landscapes) should be sorted into three, broad categories or zones of risk: high, medium, and low. Each state, in collaboration with its local partners, will develop the specific criteria it will use to sort communities or landscapes into the three categories. NASF recommends using the publication "Wildland/Urban Interface Fire Hazard Assessment Methodology" developed by the National Wildland/Urban Interface Fire Protection Program (circa 1998) as a reference guide. (This program, which has since evolved into the Firewise Program, is under the oversight of the National Wildfire Coordinating Group (NWCG)). At minimum, states should consider the following factors when assessing the relative degree of exposure each community (landscape) faces.
    - **Risk:** Using historic fire occurrence records and other factors, assess the anticipated probability of a wildfire ignition.
    - **Hazard:** Assess the fuel conditions surrounding the community using a methodology such as fire condition class, or [other] process.
    - **Values Protected:** Evaluate the human values associated with the community or landscape, such as homes, businesses, and community infrastructure (e.g. water systems, utilities, transportation systems, critical care facilities, schools, manufacturing and industrial sites, and high value commercial timber lands).

- **Protection Capabilities:** Assess the wildland fire protection capabilities of the agencies and local fire departments with jurisdiction.

4. Prioritize by project not by community. Annually prioritize projects within each state using the collaborative process defined in the national, interagency MOU "For the Development of a Collaborative Fuels Treatment Program". Assign the highest priorities to projects that will provide the greatest benefits either on the landscape or to communities. Attempt to properly sequence treatments on the landscape by working first around and within communities, and then moving further out into the surrounding landscape.
5. It is important, and necessary, that we be able to demonstrate a level of accomplishment that justifies to Congress the value of continuing the current level of appropriations for the National Fire Plan. Although appealing to appropriators and others, it is not likely that many communities (if any) will ever be removed from the list of communities at risk. Even after treatment, all communities will remain at some, albeit reduced, level of risk. However, by using a science-based system for measuring relative risk, we can likely show that, after treatment (or a series of treatments); communities are at "*reduced risk*".

Using the concept described above, the NASF believes it is possible to accurately assess the relative risk that communities face from wildland fire. Recognizing that the condition of the vegetation (fuel) on the landscape is dynamic, assessments and re-assessments must be done on a state-by-state basis, using a process that allows for the integration of local knowledge, conditions, and circumstances, with science-based national guidelines. We must remember that it is not only important to lower the risk to communities, but once the risk has been reduced, to maintain those communities at a reduced risk.

Further, it is essential that both the assessment process and the prioritization of projects be done collaboratively, with all local agencies with fire protection jurisdiction – federal, state, local, and tribal – taking an active role.

1.1.3.4 Healthy Forests Restoration Act

On December 3, 2003, President Bush signed into law the Healthy Forests Restoration Act of 2003 to reduce the threat of destructive wildfires while upholding environmental standards and encouraging early public input during review and planning processes. The legislation is based on sound science and helps further the President's Healthy Forests Initiative pledge to care for America's forests and rangelands, reduce the risk of catastrophic fire to communities, help save the lives of firefighters and citizens, and protect threatened and endangered species.

Among other things the Healthy Forests Restoration Act (HFRA):

- Strengthens public participation in developing high priority projects;
- Reduces the complexity of environmental analysis allowing federal land agencies to use the best science available to actively manage land under their protection;
- Creates a pre-decisional objections process encouraging early public participation in project planning; and
- Issues clear guidance for court action challenging HFRA projects.

The Spokane County Community Wildfire Protection Plan is developed to adhere to the principles of the HFRA while providing recommendations consistent with the policy document which should assist the federal land management agencies (US Forest Service and Bureau of Land Management) with implementing wildfire mitigation projects in Spokane County that

incorporate public involvement and the input from a wide spectrum of fire and emergency service providers in the region.

1.1.4 Planning Philosophy and Goals

1.1.4.1 Spokane County Fire Mitigation Planning Effort and Philosophy

The goals of this planning process include the integration of the National Fire Plan, the Washington Statewide Implementation Strategy, the National Association of State Foresters guidelines, and the Healthy Forests Restoration Act. This effort will utilize the best and most appropriate science from all partners and integrate local and regional knowledge about wildfire risks and fire behavior while meeting the needs of local citizens, the regional economy, and the significance of this region to the rest of Washington and the Inland West.

1.1.4.1.1 Mission Statement

To make Spokane County residents, communities, state agencies, local governments, and businesses less vulnerable to the negative effects of wildland fires through the effective administration of wildfire hazard mitigation grant programs, hazard risk assessments, wise and efficient fuels treatments, and a coordinated approach to mitigation policy through federal, state, regional, and local planning efforts. Our combined prioritization will be the protection of people, structures, infrastructure, and unique ecosystems that contribute to our way of life and the sustainability of the local and regional economy.

1.1.4.1.2 Vision Statement

Institutionalize and promote a countywide wildfire hazard mitigation ethic through leadership, professionalism, and excellence, leading the way to a safe, sustainable Spokane County.

1.1.4.1.3 Goals

- Identify and map Wildland Urban Interface (WUI) boundaries
- To reduce the area of WUI land burned and losses experienced because of wildfires where these fires threaten communities in the wildland-urban interface
- Prioritize the protection of people, structures, infrastructure, natural resources, and unique ecosystems that contribute to our way of life and the sustainability of the local and regional economy
- To provide a plan that will not diminish the private property rights of landowners in Spokane County
- Educate communities about the unique challenges of wildfire in the wildland-urban interface (WUI)
- Recommend additional strategies for private, state, and federal lands to reduce hazardous fuel conditions and lessen the life safety and property damage risks from wildfires
- Improve fire agency awareness of wildland fire threats, vulnerabilities, and mitigation opportunities or options
- Address structural ignitability and recommend measures that homeowners and communities can take to reduce the ignitability of structures

- Identify and evaluate hazardous fuel conditions with an emphasis near communities adjacent to forest lands, prioritize areas for hazardous fuel reduction treatments, and recommend the types and methods of treatment to protect the communities
- Provide opportunities for meaningful discussions among community members and local, state, and federal government representatives regarding their priorities for local fire protection and forest management
- Improve county and local fire agency eligibility for funding assistance (National Fire Plan, Healthy Forest Restoration Act, FEMA, and other sources) to reduce wildfire hazards, prepare residents for wildfire situations, and enhance fire agency response capabilities
- Meet or exceed the requirements of the National Fire Plan and FEMA for a County level Community Wildfire Protection Plan

1.1.5 Integration with Other Local Planning Guidelines

During the development of this Community Wildfire Protection Plan several planning and management documents were reviewed in order to avoid conflicting goals and objectives. Existing programs and policies were reviewed in order to identify those that may weaken or enhance the wildfire hazard mitigation objectives outlined in this document. The following narratives help identify and briefly describe some of the existing Spokane County planning documents and ordinances considered during the development of this plan.

1.1.5.1 Turnbull National Wildlife Refuge Wildland Fire Management Plan

The Turnbull National Wildlife Refuge (NWR) has nearly completed a revision of their Wildland Fire Management Plan. Turnbull's Management Plan is conducive to protecting critical habitat as well as people, structures, and infrastructure both within the refuge and in the surrounding area from the impacts of wildland fire. The Turnbull NWR Wildland Fire Management Plan will be posted at www.fws.gov/turnbull upon completion of the plan's revision process.

1.1.5.2 Spokane County Comprehensive Plan

The Comprehensive Plan is a set of goals, policies, maps, illustrations and implementation strategies that states how the County should grow physically, socially, and economically. The plan emphasizes innovative and flexible strategies to guide growth and development. One of the central themes of the Plan is the promotion of economic development that occurs in harmony with environmental protection and preservation of natural resources. The Plan recognizes the interests of the entire community and promotes cultural and ethnic diversity.

The Spokane County Community Wildfire Protection Plan will be incorporated as a tool for decision makers to further their knowledge of wildland fire risk areas in order to make more informed decisions on how future development should occur in high risk areas.

1.1.5.3 Spokane County Multi-Jurisdiction All Hazard Mitigation Plan

Natural hazards impact citizens, property, the environment, and the economy of Spokane County. Flooding, landslides, windstorms, severe winter storms, volcanoes, and earthquakes have exposed Spokane County residents and businesses to the financial and emotional costs of recovering after these natural disasters. Other events such as: urban fire, terrorism, and hazardous material spills also pose dangers to the population of Spokane County. The risk associated with natural hazards increases as more people move to areas affected by hazards. The inevitability of natural hazards, and the growing population and activity within the county

create an urgent need to develop strategies, coordinate resources, and increase public awareness to reduce risk and prevent loss from future hazard events. The Spokane County Multi-Jurisdiction All Hazard Mitigation Plan helps identify risks posed by hazards and develops strategies to reduce the impact of a hazard event on Spokane County.

The Spokane County Community Wildfire Protection Plan is a supplement to the wildfire hazard section of the All Hazard Mitigation Plan. The CWPP provides additional information and an in-depth analysis of wildland fire risks in and around Spokane County communities.

1.1.5.4 Spokane County Code

The Spokane County Code (Title 3 Buildings and Structures, Chapter 3.16) contains provisions to mitigate the hazards associated with wildfires in the unincorporated areas of the county. These provisions cover building construction standards covering roofing, decking, and balcony materials, attic/roof venting, and the use of spark arresters on chimneys.

The Spokane County Community Wildfire Protection Plan encourages this type of proactive planning at the county level. It is a recommendation of this document that similar building standards be applied to all structures built in high wildfire risk areas.

1.1.5.5 River Bluff Ranch Architecture and Landscaping Standards

The developers of the River Bluff Ranch subdivision have included in their community covenants several direct measures for decreasing the subdivision's risk of experiencing a wildland fire. Not only do the covenants address noncombustible roofing materials, but they also include specific instructions for creating and maintaining a defensible space for fire protection around every home.

The Spokane County Community Wildfire Protection Plan encourages this type of proactive planning by individuals and developers. It is a recommendation of this document that more developers and homeowner's association include wildfire prevention and mitigation requirements in their community guidelines and covenants.

1.1.5.6 Mullen Hill Terrace Mobile Home Park Community Wildfire Protection Plan 2006

The Community Wildfire Protection Plan for the Mullen Hill Terrace Mobile Home Park is the result of analyses, professional cooperation and collaboration, assessments of wildfire risks and other factors considered with the intent to reduce the potential for wildfires to threaten people, structures, infrastructure, and ecosystems within the park.

The Mullen Hill Terrace CWPP was finalized in 2006. Representatives from the core team that worked on the Mullen Hill Terrace CWPP have been invited to the table and are actively participating in the development of the Spokane County Community Wildfire Protection Plan. Specific components of the Mullen Hill Terrace CWPP are being incorporated into the Spokane County CWPP to ensure that the County's Plan smoothly dovetails with the assessments, goals, and mitigation measures outlined in the Mullen Hill Terrace CWPP.

1.1.5.7 Denison Chattaroy Community Wildfire Protection Plan 2006

Residents of the Denison Chattaroy community value their homes, as well as the surrounding forest environment. The Washington State Department of Natural Resources, Spokane County Fire District #4, and FireSafe Spokane have been concerned with wildfires, and potential

wildfires, in this area. This concern prompted a joint effort to develop and implement a Community Wildfire Protection Plan. The Denison Chattaroy CWPP is designed to protect human life and property and reduce the risk of future wildfire related disasters in the area.

The Denison Chattaroy CWPP was finalized in 2006. Representatives from the core team that worked on the Denison Chattaroy CWPP have been invited to the table and are actively participating in the development of the Spokane County Community Wildfire Protection Plan. Specific components of the Denison Chattaroy CWPP are being incorporated into the Spokane County CWPP to ensure that the County's Plan smoothly dovetails with the assessments, goals, and mitigation measures outlined in the Denison Chattaroy CWPP.

Chapter 2

2 Documenting the Planning Process

Documentation of the planning process, including public involvement, is required to meet FEMA's DMA 2000 (44CFR§201.4(c)(1) and §201.6(c)(1)). This section includes a description of the planning process used to develop this plan, including how it was prepared, who was involved in the process, and how all of the involved agencies participated.

2.1 Description of the Planning Process

The Spokane County Community Wildfire Protection Plan was developed through a collaborative process involving all of the organizations and agencies detailed in Chapter 1 of this document. The planning process included five distinct phases which were in some cases sequential (step 1 then step 2) and in some cases intermixed (step 4 completed throughout the process):

1. **Collection of Data** about the extent and periodicity of hazards in and around Spokane County. This included areas encompassing Stevens, Ferry, and Pend Oreille County to ensure a robust dataset for making inferences about wildfires in Spokane County specifically.
2. **Field Observations and Estimations** about risks, adjacency of structures and infrastructure to risk areas, access, and potential treatments.
3. **Mapping** of data relevant to pre-disaster mitigation control and treatments, structures, resource values, infrastructure, risk assessments, and related data.
4. **Facilitation of Public Involvement** from the formation of the planning committee, to a public mail survey, news releases, public meetings, public review of draft documents, and acknowledgement of the final plan by the signatory representatives.
5. **Analysis and Drafting of the Report** to integrate the results of the planning process, providing ample review and integration of committee and public input, followed by signing of the final document.

2.2 The Planning Team

Leading planning efforts from Spokane County was Washington State University Extension Educator, Janean Creighton. Northwest Management Project Co-Managers were Tera R. King and Vaiden Bloch, both with resource management degrees from the University of Idaho.

These individuals led a team of resource professionals that included Spokane County government, incorporated city officials, fire protection districts, state and federal agencies, local organizations, and hazard mitigation experts.

The planning team met with many residents of the County during inspections of the communities and infrastructure and at the public meetings. This methodology, when coupled with the other approaches in this process, worked adequately to integrate a wide spectrum of observations and interpretations about the project.

The planning philosophy employed in this project included the open and free sharing of information with interested parties. Information from federal and state agencies was integrated into the database of knowledge used in this project. Meetings with the committee were held

throughout the planning process to facilitate a sharing of information between cooperators. Furthermore, when the public meetings were held, many of the committee members were in attendance and shared their support and experiences with the planning process and their interpretations of the results.

2.2.1 Multi-Jurisdictional Participation

CFR requirement §201.6(a)(3) calls for multi-jurisdictional planning in the development of Hazard Mitigation Plans which impact multiple jurisdictions. This Community Wildfire Protection Plan is applicable to the following jurisdictions:

- Spokane County, Washington
- City of Spokane
- City of Spokane Valley
- City of Deer Park
- City of Cheney
- City of Medical Lake
- City of Airway Heights
- City of Liberty Lake
- Town of Latah
- Town of Waverly
- Town of Rockford
- Town of Fairfield
- Town of Spangle
- Town of Millwood

These jurisdictions were represented on the planning committee, in public meetings, and participated in the development of hazard profiles, risk assessments, and mitigation measures. The monthly planning committee meetings were the primary venue for authenticating the planning record. However, additional input was gathered from each jurisdiction in a combination of the following ways:

- Planning committee leadership visits to scheduled municipality public meetings (e.g., county commissioner meetings, city hall meetings) where planning updates were provided and information was exchanged.
- One-on-one visits between the planning committee leadership and the representatives of the municipalities (e.g. meetings with county commissioners, cities, fire districts, or communities).
- Special meetings at each jurisdiction by the planning committee leadership requested by the municipality involving elected officials (mayor and county commissioners), appointed officials (e.g., county assessor, sheriff, police), municipality employees, local volunteers, business community representatives, and local citizenry.
- Written correspondence was provided monthly between the planning committee leadership and each municipality updating the cooperators in the planning process, making requests for information, and facilitating feedback.

Like other rural areas of Washington and the USA, Spokane County's human resources have many demands put on them in terms of time and availability. Several of the elected officials (town mayors) do not serve in a full-time capacity; some of them have other employment and serve the community through a convention of community service. Recognizing this, many of the jurisdictions decided to identify a representative to cooperate on the planning committee and then report back to the remainder of their organization and serve as a conduit between the planning committee and the jurisdiction.

2.3 Planning Committee Meetings

The following list of people who participated in the planning committee meetings, volunteered time, or responded to elements of the Spokane County Community Wildfire Protection Plan's preparation.

NAME	ORGANIZATION
• Bruce Holloway	Spokane County Fire District #3
• Carol Harrington	Spokane County Fire District #5
• Chuck Johnson	Washington Department of Natural Resources
• Dan Blystone	Spokane County Fire District #8
• Darrell Ruby	Spokane Department of Emergency Management
• Doug Bleeker	Spokane County Fire District #9
• Doug Frederick	Turnbull National Wildlife Refuge
• Garth Davis	Spokane Conservation District
• Guy Gifford	Washington Department of Natural Resources
• Jack Bell	Northwest Management, Inc.
• Janean Creighton	WSU Spokane County Extension
• Joe E. Gumminger	Spokane County Fire District #10
• Joe Krizanic	Spokane County Fire District #4
• Len Brodersen	Washington Department of Natural Resources
• Lisa Jones	Spokane Fire Department
• Nick Scharff	Spokane County Fire District #10
• Shawna Ernst	Spokane County GIS
• Steve Harris	Washington Department of Natural Resources
• Steve Pietroburgo	U.S. Fish and Wildlife Service
• Tera King	Northwest Management, Inc.
• Terry Paetow	Spokane County Homeowner
• Tim Steiner	Cheney Fire Department
• Tom Mattern	Disaster and Emergency Management
• Vaiden Bloch	Northwest Management, Inc.

2.3.1.1 Committee Meeting Minutes

The planning committee began meeting in 2007 to lay the ground work for the Spokane County CWPP. Northwest Management, Inc. was hired and began attending regular planning committee meetings in November of 2007.

2.3.1.1.1 November 20th, 2007 – Spokane County Extension Office

Agenda Item #1 – Call to Order:

Janean Creighton, CWPP Chair, called the meeting to order by asking for round table introductions of the committee members.

Agenda Item #2 – Northwest Management, Inc. Presentation:

In order to give the committee an overview of the whole process and make sure everyone understood the purpose of the CWPP planning process, Northwest Management (NMI) prepared a PowerPoint presentation that went through each of the steps as well as introduced the company to the committee members. Several of the slides in the presentation sparked

discussions and questions by the committee. The following is a list of some of the major discussion items:

- Purpose of the CWPP
- Planning Guidelines and Requirements
- Major Document Components (Document Outline)
- Wildland-Urban Interface
- Community Assessments
- Types of Projects
- Past or Ongoing Fuels Reduction, Education, etc Projects in the County
- Mapping and GIS (what's available versus what NMI needs)
- Public Involvement
- Committee and NMI Responsibilities

NMI provided a sample of the maps they will produce during the planning process. Vaiden led an in-depth discussion of the GIS data needed to complete the mapping, risk analyses, and surveys. He also asked that committee review all of the mapping products and provide edits throughout the process.

Agenda Item #3 – Discuss Mission, Vision, and Goals Statements:

Tera handed out a rough draft of potential mission, vision, and goals statements that will help guide the planning process. She noted that these were just suggestions and asked the committee to review the statements and provide comments to NMI by the next committee meeting.

Agenda Item #4 – Public Survey and Press Release:

Rough drafts of the first press release and public survey were handed out. Vaiden and Tera went through both the press release and the survey questions making several corrections and additions as committee members suggested ideas for improvement. Janean frequently works with this type of media and has ideas for improvement. Tera asked that any additional comments and suggestions be sent to her before the next meeting. She will make the corrections and send the revised versions to the committee electronically for further review. It was also noted that all public materials would be released with the County's, Extension's, or some other local entity's letterhead and contact information.

Janean, Steve, and Darrell said that they had lists of potential media outlets for the press release. There was also discussion of the use of "Survey Monkey" to incorporate an online version of the public survey. Tera will look into the ramifications to the statistical sample and see if it's feasible and efficient for this type of project.

Agenda Item #5 – Resource and Capability Surveys:

Tera handed out blank versions of the Resources and Capability surveys, but noted that these were primarily directed at the fire districts and wildland firefighting agencies. The purpose of these surveys is not only to provide a summary of the districts' capabilities, interagency agreements, and equipment, but also to identify problem areas and current needs. Tera will work with the various departments to get these completed within the next two months.

Northwest Management will be conducted the community field assessments between now and the next meeting. They will be trying to meet with local fire district representatives to set up meetings and/or tours of each district. This would also be a good opportunity to discuss the resource and capability surveys.

Agenda Item #6 – Meeting Schedule:

Tera handed out a tentative timeline to give the committee an idea of the approximate number of meetings required as well as to note milestones in the project. The timeline includes a tentative completion date of mid-summer.

Currently, the CWPP committee meets on the second Tuesday of each month. The attending members agreed to keep this schedule except change the meeting location and time to the Spokane Extension office at 10 am. There will be no December meeting; thus, the next meeting date is schedule for January 10th.

Agenda Item #7 – Task List and Assignments:

Information can be sent to Tera King at king@consulting-foresters.com.**

1. Send NMI info on existing mitigation programs, planning documents, etc – Committee
2. Review/send edits on Mission, Vision, and Goals Statements by January 10th – Committee
3. Send NMI press release edits by January 7th – Committee
4. Review public survey and send edits to NMI by January 7th – Committee
5. Send NMI any relevant GIS data – Committee and NMI
6. Send committee all review materials electronically - Tera
7. Conduct community assessments and meet with fire districts - NMI
8. Send NMI completed Resources and Capabilities surveys – Fire Depts & Agencies
9. Send NMI organization logos by the next meeting - Committee

Agenda Item #8 – Adjournment:

Tera adjourned the meeting at approximately 1200 hours; however, she asked that the committee take a look at some of the wall maps before they leave.

Next Meeting: January 10th at 10:00 am at the Spokane County Extension Office (same location).

2.3.1.1.2 January 10th, 2008 – Spokane County Extension Office

Agenda Item #1 – Call to Order:

Janean Creighton, CWPP Chair, called the meeting to order by asking for round table introductions of the committee members.

Agenda Item #2 – Housekeeping Items:

There was several housekeeping items left over from the November meeting. Tera asked if there were any further edits to the mission, vision, and goals statement or the press release. The committee also spent some time reviewing the public survey and making some additional changes. NMI will make the changes and send it to the committee for final approval.

Tera included a checklist in the agenda of the fire districts that had submitted their Resources and Capabilities form so far.

Agenda Item #3 – Community Assessments:

Included in the agenda packet was a map of the county fire district boundaries split up into six large groups. Each group represents the proposed strategic planning areas (SPA) used to write general risk assessments for each area. The committee reviewed the map and made adjustments to the proposed SPA boundaries. NMI will be making driving tours of each area in order to provide the written risk assessments at the February meeting.

Agenda Item #4 – Wildland Urban Interface:

NMI presented the first version of the draft Wildland-Urban Interface boundary map for committee review. The map is based on population density data provided by the County. It was recognized that there were areas where numerous structures were missing causing the boundaries to be skewed. These areas were identified and NMI will work on improving the accuracy of the data.

Agenda Item #5 – Meeting Schedule:

The public meetings have been scheduled for the week of March 10th – March 14th. Ponderosa, Cheney, Chattaroy, Nine Mile, and the Foothills areas were identified as the best locations around the County to hold the meeting. Tera will work with several members of the committee to schedule the exact date, place, and time of each meeting.

Agenda Item #6 – Map Review and Project Mapping:

There were several wall maps presented for the committee to review for accuracy. In addition, a wall sized landownership map was available on the table for committee members to begin outlining project areas. Each proposed project will be digitized and presented at the next meeting as well as the public meetings.

Agenda Item #7 – Task List and Assignments:

Information can be sent to Tera King at king@consulting-foresters.com.**

1. Send NMI info on existing mitigation programs, planning documents, etc – Committee
2. Conduct community assessments and meet with fire districts - NMI
3. Send NMI completed Resources and Capabilities surveys – Fire Depts & Agencies
4. Send NMI organization logos by the next meeting - Committee

Agenda Item #8 – Adjournment:

Tera adjourned the meeting at approximately 1200 hours.

Next Meeting: February 14th at 10:00 am at the Spokane County Extension Office (same location).

2.3.1.1.3 February 14th, 2008 – Spokane County Extension Office

Agenda Item #1 – Call to Order:

Janean Creighton, CWPP Chair, called the meeting to order. There was a short discussion on potential ways to improve the County Commissioner's involvement in the project. Several members of the committee were asked to contact them directly.

Agenda Item #2 – Housekeeping Items:

Tera reported that the first mailing of the public survey had been sent out. The second and third mailings will follow at two week intervals.

NMI did receive a few more Resource and Capabilities surveys from fire departments. Doug provided contact information for the remaining departments. Tera will work on getting them to participate.

Agenda Item #3 – Chapter Review:

Tera handed out Chapters 1-3 for the committee to review. She went over the basic formatting as well as additional information needed. Several corrections were made; however, Tera asked that the committee review the document and send her comments before the next meeting.

Vaiden spent some time touring the County and meeting with the various fire chiefs to discuss high risk/high priority areas within each district. Based on these, he has written narrative descriptions of each strategic planning area. These summaries were also handed out for the committee to review and provide comments by the next meeting.

Agenda Item #4 – Wildland Urban Interface:

NMI has re-evaluated the structure layer used to create the first draft of the wildland urban interface base map. It was noted at the last meeting that numerous structures were missing in some parts of the County. Vaiden has corrected these errors and provided a new draft WUI map. The committee reviewed the map as a group and made some adjustments based on known high risk areas and infrastructure components not currently included. NMI will revise the map for the next meeting.

Agenda Item #5 – Public Meeting Schedule:

The public meetings are scheduled for March 10th-13th and March 18th. Included in the agenda packet was the draft press release/flyer. The committee approved the press release, but will send NMI pictures of local fires to be included instead. Tera will revise and send the press release to all media contacts two weeks prior to the meetings.

Agenda Item #6 – Map Review and Project Mapping:

NMI presented the draft project map based on the project mapping exercise conducted at the last meeting. It was noted that the project areas were draft based on lines drawn with markers; thus, some revising will likely occur before the final draft is published. The committee cross-referenced the project map with the WUI map and made some additional adjustments. The WUI map, Project map, and SPA map were included in the agenda packet.

Agenda Item #7 – Task List and Assignments:

Information can be sent to Tera King at king@consulting-foresters.com.**

1. Send NMI edits to Chapters 1-3 and community assessments - Committee
2. Attend public meetings - Committee
3. Send NMI info on existing mitigation programs, planning documents, etc – Committee
4. Finish community assessments - NMI
5. Send NMI completed Resources and Capabilities surveys – Fire Depts & Agencies
6. Send NMI organization logos by the next meeting - Committee

Agenda Item #8 – Adjournment:

Tera adjourned the meeting at approximately 1200 hours. Next Meeting: April 10th at 10:00 am at the Spokane County Extension Office (same location).

2.3.1.1.4 April 11th, 2008 – Spokane County Extension Office

Agenda Item #1 – Call to Order:

Janean Creighton, CWPP Chair, called the meeting to order. There was a short discussion on potential ways to improve the County Commissioner's involvement in the project. Several members of the committee noted that they had written letters or contacted the Commissioner's directly with no luck so far. The committee agreed that it would be a good idea to deliver the draft document directly to them in person in order to get them to review it prior to the public review and adoption phases.

Agenda Item #2 – Housekeeping Items:

Tera reported that all three mailings of the public survey had been completed and that NMI was still receiving about one survey per day with a total response rate of about 36% so far. Janean added that she had received several phone calls regarding the survey.

The agenda recognized that NMI was still missing Resource and Capability surveys from Fire Districts #2, 11, and 12 and the city departments of Rockford, Spokane, Airway Heights, and Medical Lake. Tera will continue to work on getting these completed.

Tera and Vaiden and several members of the committee reported that the five public meetings in March were relatively successful. The Ponderosa meeting was exceptionally well attended. Numerous issues were discussed with several homeowners indicated that they were interested in a variety of programs to help reduce fuels in their communities. The committee members in attendance at the meetings fielded a variety of questions about the CWPP as well as other issues the fire districts are dealing with.

Agenda Item #3 – Draft Review:

NMI handed out the rough draft of the CWPP. Tera went through the first four chapters explaining the formatting, analyses, and where additional information was needed. A lengthy discussion regarding some of the general issues that came up at the public meetings were discussed and several will be added to Chapter 4. Chapter 5 contains all of the project recommendations to date. The committee went through each project discussing the wording of the recommendation, who should be the lead and support organizations, and the suggested planning horizon. Numerous adjustments were made and will be reflected in the next version of the draft. So far, no prioritization of recommendations has been done, but this will be completed for the May meeting using the prioritization scheme outlined in Chapter 5.

Agenda Item #4 – Project Mapping and Prioritization:

Tera gave a brief explanation of the revised project map asking that the committee members take a look at the boundaries of each project. If there is an opportunity to shrink the project to better reflect the location of structures or infrastructure that would improve the cost/benefit analysis of the project.

Tera also handed out a spreadsheet with all of the current projects organized by Strategic Planning Area. She asked that each fire district look at the list and provide a ranking of at least the top their projects in their district. Due to time constraints, Tera will send this information out electronically. This item will be revisited at the next meeting as well.

Agenda Item #5 – Task List and Assignments:

Information can be sent to Tera King at king@consulting-foresters.com .*

1. Send NMI edits to Draft CWPP by May 2nd - Committee
2. Send NMI info on existing mitigation programs, planning documents, etc – Committee
3. Send NMI completed Resources and Capabilities surveys – Fire Depts & Agencies
4. Send NMI organization logos by the next meeting - Committee

Agenda Item #6 – Adjournment:

Tera adjourned the meeting at approximately 1220 hours. Next Meeting: May 8th at 10:00 am at the Spokane County Extension Office (same location).

2.3.1.1.5 May 8th, 2008 – Spokane County Extension Office

Agenda Item #1 – Call to Order:

Janean Creighton, CWPP Chair, called the meeting to order. There was a short discussion regarding the lack of participation by the County Commissioners at the committee meetings. It was agreed that Tera and a DNR representative would schedule a meeting with the Commissioners to occur prior to the release of the document for public review.

Agenda Item #2 – Draft Review:

NMI handed out a packet containing all of the committee's proposed revisions to the draft CWPP document as discussed at the last meeting and including those sent via email. The primary changes were the wildfire extent and ignition data and the inclusion of DNR and USFWS projects and maps. New additions to the draft included the survey results and the prioritization of the action items in Chapter 5. The committee reviewed the prioritization scheme and spreadsheet and made some minor revisions. Tera will send all of this information to Janean for distribution.

Agenda Item #3 – Appendices Draft Review:

NMI handed out copies of the draft CWPP Appendices. Tera explained that the majority of the maps, the survey, full prioritization scores, and other supporting information was contained in the Appendices to help reduce the file size and pages of the main document.

Agenda Item #4 – Project Mapping and Prioritization:

NMI handed out a table containing information regarding all of the mapped project areas including their SPA location, name, type of treatment proposed, number of acres, and the number of structures in each project area. Some of the fire districts had already sent in a list of the top priority projects in their respective fire districts or SPAs. These were also included. The committee reviewed each project and attached information for accuracy and discussed the need to revise project boundaries, etc. For those SPAs not represented at the committee meetings, the committee agreed on a priority ranking for the projects in that area. Tera will email this list to Janean for distribution to the full committee for additional review.

Agenda Item #5 – Public Review:

Once a meeting with the Commissioners has been arranged, the document will be ready for public review (actual dates to be announced). The committee reviewed a draft press release and agreed that a copy of the CWPP should be placed in every public (county and city) library in Spokane County. In addition, an electronic copy will be available at www.spokaneprepares.com.

Agenda Item #6 – Adjournment:

Tera adjourned the meeting at approximately 1145 hours. Next meeting t*entatively* scheduled for July 10th at 10:00 am at the Spokane County Extension Office (same location).

2.3.1.1.6 October 30th, 2008 – Spokane County Extension Office

Agenda Item #1 – Call to Order:

Janean Creighton, CWPP Chair, called the meeting to order and gave an overview of the CWPP activities since the last committee meeting in May. Tera noted that Commissioner Richard had been receptive to their requests for comments and had invited committee leadership to give a presentation at the Council of Governments held during the Spokane County Fair. This was an excellent opportunity to educate community leaders on the CWPP, its implications, and potential future projects.

Agenda Item #2 – Review of Public Comments:

Tera reviewed each of the comments submitted by the public. The committee discussed each topic and made a decision on whether or not to include/exclude the item in the CWPP. A summary of the comments and the committee's response was sent out to the committee email distribution list.

Agenda Item #3 – Next Steps:

The committee decided that it was time to move forward with the County adoption process. Tera will work with the Board of Commissioner's office to set a hearing date for the County's adoption of the CWPP.

Agenda Item #4 – Adjournment:

Tera adjourned the meeting at approximately 1130 hours.

2.4 Public Involvement

Public involvement in this plan was made a priority from the inception of the project. There were a number of ways that public involvement was sought and facilitated. In some cases this led to members of the public providing information and seeking an active role in protecting their own homes and businesses, while in other cases it led to the public becoming more aware of the process without becoming directly involved in the planning.

2.4.1 News Releases

Under the auspices of the Spokane County planning committee, news releases were submitted to the *Capital Press Spokane*, the *Spokesman Review*, the *Deer Park Tribune, AP Spokane*, the *Valley News Herald*, the *Cheney Free Press*, and the KAYU, KHQ, KREM, and KXLY television stations as well as the Spokane County Public Information Officer. Informative flyers were also distributed around towns and to local offices within the communities.

Figure 2.1. Press Release sent on February 7th, 2008.

Spokane County Plans to Mitigate Wildfire Risk

Spokane County has launched the process of developing a county-level Community Wildfire Protection Plan. Local agencies and organizations in Spokane County have created a planning committee to complete the Community Wildfire Protection Plan as part of the National Fire Plan and Healthy Forests Restoration Act as authorized by Congress and the White House. The Spokane County Community Wildfire Protection Plan will include risk analysis at the community level with predictive models for where fires are likely to ignite and where they are likely to spread. Northwest Management, Inc. has been retained by Spokane County and the Washington Department of Natural Resources to provide wildfire risk assessments, mapping, field inspections, interviews, and to collaborate with the committee to prepare the plan. The committee includes rural and wildland fire districts, Washington Department of Natural Resources representative, land managers, city and county elected officials, agency representatives, community organizations, and many others.

Wildfire mitigation specialists are conducting analyses of fire prone landscapes and making recommendations for potential treatments. Specific activities for homes, structures, infrastructure, and resource capabilities will be proposed as part of the analysis.

One very important step in gathering information about fire risk in Spokane County is to conduct a homeowner's survey. Northwest Management, Inc., in cooperation with the

planning committee, will be mailing a brief survey to randomly selected homeowners in the county seeking input about home construction materials, proximity to water sources, and other risk factors surrounding homes. This survey is very important to the success of the plan. Those homeowners that receive a survey are asked to please take the time to complete it, thereby benefiting the community overall.

The planning team will be conducting public meetings to discuss preliminary findings and to seek public involvement in the planning process in early March. A notice on the date and location of these meetings will be posted in local newspapers.

For more information on the Community Wildfire Protection Plan in Spokane County contact Janean Creighton, Spokane County Extension Office, at 509-477-2199 or Tera King at the Northwest Management, Inc. office in Moscow, Idaho at 208-883-4488.

2.4.2 Public Mail Survey

In order to collect a broad base of perceptions about the wildland fire risk in Spokane County and homeowners' perception of that risk, a mail survey was conducted. Approximately 375 residents of Spokane County were randomly selected to receive a mail survey.

The public mail survey developed for this project has been used in the past by Northwest Management, Inc., during the execution of other planning projects. The survey used The Total Design Method (Dillman 1978) as a model to schedule the timing and content of letters sent to the selected recipients.

The first in the series of mailings was sent February 12th, 2008 and included a cover letter, a survey, and an offer of receiving a custom GIS map of Spokane County if they would complete and return the survey. The free map incentive was tied into assisting their community and helping their interests by participating in this process. Each letter also informed residents about the planning process. A return self-addressed envelope was included in each packet. A postcard reminder was sent to the non-respondents on February 27th, 2008, encouraging their response. A final mailing, with a revised cover letter pleading with them to participate, was sent to non-respondents on March 12th, 2008.

Surveys were returned during the months of February, March, and April. A total of 159 residents responded to the survey as of May 6, 2008. The effective response rate for this survey was 43% (46% rural residents, 27% urban residents).

2.4.2.1 Survey Results

A summary of the survey's results is presented here and referred back to during the ensuing discussions on the need for various treatments, education, and other information.

Of the 159 total respondents in the survey, approximately 15% were from the Spokane area, 8% each were from Mead or Deer Park, 6% were from Chattaroy, 4% each were from the Colbert, Millwood, or Airway Heights areas, #% each were from the Riverside, Otis Orchards, or Newman Lake areas, 2% each were from the Elk, Liberty Lake, or Spokane Valley areas, with the remaining respondents from other areas in the county at a rate of about 1% per community.

Nearly all (95%) of the respondents correctly identified that they have emergency telephone 911 services in their area. When asked which fire district they were located in, 23% said they did not know and 28% named the wrong district. 59% of respondents said the average response time by a fire department to their home was less than 10 minutes, 29% thought the average response time was between 10 and 20 minutes, 2% of respondents thought that a fire department would be there within 20 to 30 minutes, and 0% thought it would take more than 30

minutes, and 10% responded “not applicable”. When asked if they had ever had to call fire service to their home, 23% of respondents said they had.

Respondents were asked to indicate the type of roofing material covering the main structure of their home. Approximately 79% of respondents indicated their homes were covered with a composite material (asphalt shingles). About 14% indicated their homes were covered with a metal (e.g., aluminum, tin) roofing material, and 3% of the respondents indicated they have a wooden roof (e.g. shake, shingles). When asked if they kept a green lawn around their home year round, 97% of those that had a lawn (91%) said they did.

The average driveway length of respondents to the survey was 538 feet long (.1 miles). The longest reported was two miles. Of those respondents (11%) with a driveway over ¼ mile long 10% do not have turnouts allowing two vehicles to pass. 12% of those respondents with a driveway indicated having a dirt surface, while 43% had gravel or rock and 45% had a paved driveway. Approximately 24% of the respondents indicated an alternate escape route was not available in an emergency that cut off their primary driveway access.

Respondents were asked what type of tools they had on hand to use against a wildfire that threatens their home. Table 2.1 summarizes these responses.

Table 2.1. Percent of homes with indicated fire fighting tools in Spokane County.

96% – Hand tools (shovel, axe, etc.)
7% – Portable water tank
7% – Fixed/Stationary water tank
25% – Pond, lake, swimming pool, or stream water supply close
8% – Water pump and fire hose
36% – Well or cistern
26% – Equipment suitable for creating fire breaks (bulldozer, cat, farm tractor, etc.)

Respondents were asked to complete a fuel hazard rating worksheet to assess their home’s fire risk rating. The following is an example of the worksheet and a summarization of responses (Table 2.2).

Circle the ratings in each category that best describes your home.

Table 2.2. Fuel Hazard Rating Worksheet		Rating	Results
Fuel Hazard	Small, light fuels (grasses, forbs, weeds, shrubs)	1	42%
	Medium size fuels (brush, large shrubs, small trees)	2	35%
	Heavy, large fuels (woodlands, timber, heavy brush)	3	23%
Slope Hazard	Mild slopes (0-5%)	1	70%
	Moderate slope (6-20%)	2	21%
	Steep Slopes (21-40%)	3	7%
	Extreme slopes (41% and greater)	4	1%
Structure Hazard	Noncombustible roof and noncombustible siding materials	1	28%
	Noncombustible roof and combustible siding material	3	36%
	Combustible roof and noncombustible siding material	7	10%
	Combustible roof and combustible siding materials	10	25%
Additional Factors	Rough topography that contains several steep canyons or ridges	+2	Average -2.03 pts
	Areas having history of higher than average fire occurrence	+3	
	Areas exposed to severe fire weather and strong winds	+4	
	Areas with existing fuel modifications or usable fire breaks	-3	
	Areas with local facilities (water systems, rural fire departments, dozers)	-3	

Calculating your risk

Values below are the average responses to each question for those living in both rural and urban areas.

Fuel hazard	1.79	x Slope Hazard	1.38	= 2.47
Structural hazard	+	4.58		
Additional factors	(+ or -)	-2.03		
Total Hazard Points	=	5.02		

Table 2.3. Percent of respondents in each risk category as determined by the survey respondents.
00% – Extreme Risk = 26 + points
04% – High Risk = 16–25 points
33% – Moderate Risk = 7–15 points
63% – Low Risk = 6 or less points

Respondents were asked a series of questions regarding mitigation activities they had recently done or currently do on their property. The first question asked if they conducted a periodic fuels reduction program near their home; 80% said that they did. Respondents were also asked if livestock were grazed around their home or farmstead; 16% indicated there were.

Finally, respondents were asked “If offered in your area, would members of your household attend a free or low cost, ½ -day training seminar designed to share with homeowners how to reduce the potential for casualty loss surrounding your home?” Approximately 50% of respondents indicated a desire to participate in this type of training.

Homeowners were also asked, "How Hazard Mitigation projects should be funded in the areas surrounding homes, communities, and infrastructure such as power lines and major roads?" Responses are summarized in Table 2.4.

Table 2.4. Public Opinion of Hazard Mitigation Funding Preferences.

	100% Public Funding	Cost-Share (Public & Private)	Privately Funded (Owner or Company)
Home Defensibility Projects	12%	36%	52%
Community Defensibility Projects	35%	55%	10%
Infrastructure Projects (i.e. roads, bridges, etc.)	70%	22%	8%
Fuels Reduction or Forest Health Projects on Private Lands	14%	39%	47%

2.4.3 Public Meetings

Public meetings were scheduled in a variety of communities in Spokane County during the risk assessment phase of the planning process. Public meetings were scheduled to share information on the planning process, inform details of the community risk assessments, and discuss potential mitigation treatments. Attendees at the public meetings were asked to give their impressions of the accuracy of the information generated and provide their opinions of potential treatments.

The schedule of public meetings included five locations in the county, which were attended by a number of individuals on the committee and from the general public. Total attendance was as follows: 12 at Cheney, 4 at Bigelow Gulch, 14 at Nine Mile, 9 at Chattaroy, and approximately 35 at Ponderosa. The public meeting announcement was sent to the local news media and distributed by committee members. A sample of the flyer is included below in Figure 2.2.

Figure 2.2. Flyer for March 2008 Public Meetings.

The following slideshow was presented at each of the public meetings by Tera King and Vaiden Bloch of Northwest Management, Inc. In addition, where possible, a fire district or other planning committee representative opened the meeting with a brief introduction.

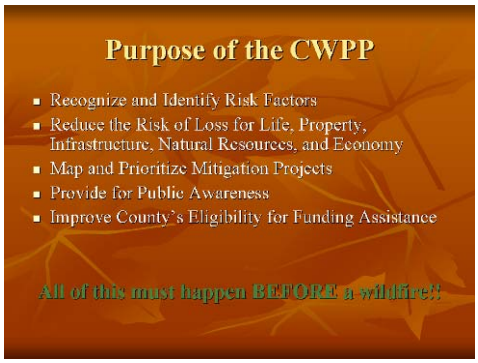
Table 2.5. Public meeting slide show.

Slide 1

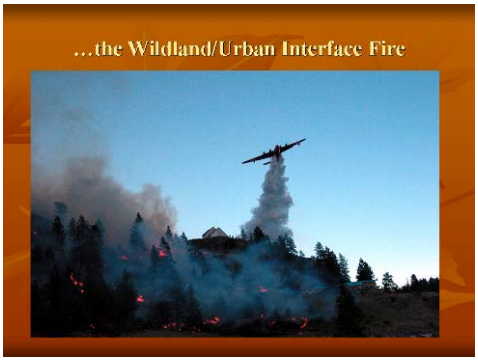
Slide 2

Slide 3

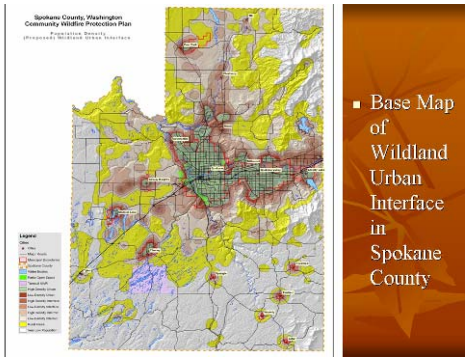
Slide 4



Slide 5



Slide 6



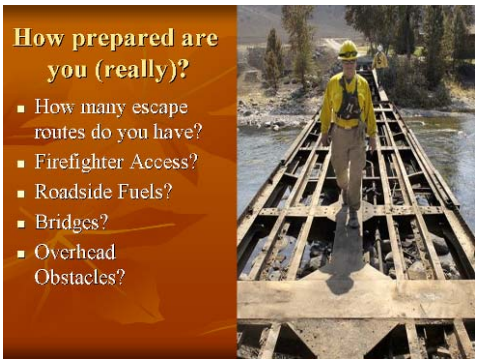
Slide 7

Slide 8

Slide 9

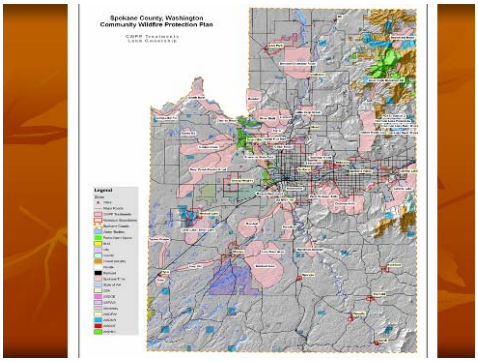
Slide 10

Slide 11

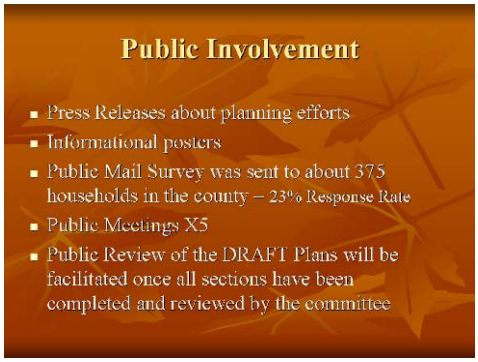


Slide 12

Slide 13

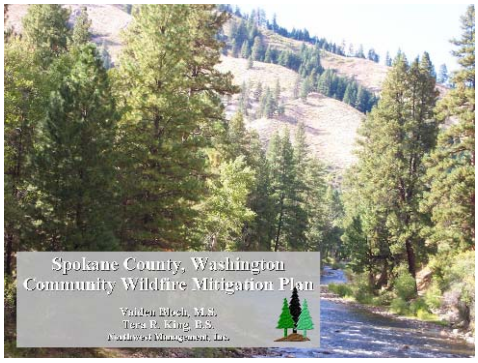


Slide 14



Slide 15

Slide 16



2.4.4 Documented Review Process

Review and comment on this plan has been provided through a number of avenues for the committee members as well as members of the general public.

During regularly scheduled committee meetings in 2007-08, the committee met to discuss findings, review mapping and analysis, and provide written comments on draft sections of the document. During the public meetings, attendees observed map analyses, photographic collections, discussed general findings from the community assessments, and made recommendations on potential project areas.

The first draft of the document was prepared after the public meetings and presented to the committee at the April meeting for full committee review. The completed draft document was released for public review on August 15th, 2008. The public review period remained open until September 12th, 2008.

2.4.5 Continued Public Involvement

Spokane County is dedicated to involving the public directly in review and updates of this Community Wildfire Protection Plan. The Spokane County Commissioners, through the CWPP committee, are responsible for the annual review and update of the plan as recommended in the Chapter 5 of this document.

The public will have the opportunity to provide feedback about the Plan annually on the anniversary of its adoption at a meeting of the County Commissioners. Copies of the Plan will be available at the Inland Northwest Emergency and Disaster Preparedness website, www.spokaneprepares.com, and the Washington Department of Natural Resources website at www.dnr.wa.gov.

A public meeting will also be held as part of each annual evaluation or when deemed necessary by the planning committee. The meetings will provide the public a forum for which they can express concerns, opinions, or ideas about the Plan. The County Commissioner's Office will be responsible for using County resources to publicize the annual meetings and maintain public involvement through the County webpage and newspapers.

Chapter 3

3 Spokane County Characteristics

Spokane County has an area of 1,763 square miles, making it 19th in size among the state's counties. Spokane County is rectangular, except for a jagged northwest corner. Pend Oreille and Stevens Counties lie along the northern boundary, Lincoln County lies to the west, Whitman County to the south, and the State of Idaho makes up the eastern boundary.

Spokane County's terrain is highly variable with forested and mountainous areas to the north, fertile agricultural soils on the Palouse in the southeast, and channeled scablands to the southwest. Mount Spokane, the highest point in the county, is 5,878 feet.

The county has two rivers. The Little Spokane River flows south from Pend Oreille County to the Spokane River in the center of the county and the Spokane River, outlet for Coeur d'Alene Lake, flows west from Idaho into central Spokane County and through the cities of Spokane and Spokane Valley. The Spokane River eventually turns to the northwest, joining the Little Spokane River at the northwestern border of the county.

Spokane County is also the home of the Fairchild Air Force Base, twelve miles west of the City of Spokane. Fairchild Air Force Base is the largest air refueling wing in the Air Force capable of maintaining an air bridge across the nation and the world in support of US and allied forces.

3.1 Demographics

Spokane County reported an increase in total population from 361,364 in 1990 to 417,939 in 2000. In 2006, the County's population was estimated at 446,706, which equals an estimated 4,795 increase in population each year.

Spokane County has twelve incorporated communities: Spokane (pop. 202,900), Spokane Valley (pop. 88,280), Deer Park (pop. 3,335), Cheney (pop. 10,210), Medical Lake (pop. 4,695), Airway Heights (pop. 5,030), Liberty Lake (pop. 6,580), Latah (pop. 192), Waverly (pop. 120), Rockford (pop. 504), Fairfield (pop. 275), Millwood (pop. 1,665), and Spangle (pop. 275).

Ethnicity in Spokane County is distributed: white 91.4%, black or African American 1.6%, American Indian or Alaskan Native 1.4%, Asian 1.9%, Hispanic or Latino 2.8%, , and some other race 0.8%.

3.2 Socioeconomics

Spokane County had a total of 163,611 occupied housing units reported in the 2000 Census. Specific economic data for individual communities is collected by the US Census; in Spokane County the median household income is $37,308.

Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low Income Populations, directs federal agencies to identify and address any disproportionately high adverse human health or environmental effects of its projects on minority or low-income populations. In Spokane County, a significant number, 8.3%, of families are at or below the poverty level. The unemployment rate was 5.1% in Spokane County in 1999, compared to 4.4% nationally during the same period. Approximately 77% of Spokane County's employed persons are private wage and salary workers, while around 16% are government workers.

Spokane County is the economic hub of the area known as the Inland Northwest. Medical services are the largest economic sector in the county. It also has strong and diversified manufacturing, wholesale trade, and finance sectors. Other functions include a large agricultural community and a strong retail trade and services sector. The City of Spokane is the retail trade and services hub and a regional center for arts and entertainment.

3.3 Cultural Resources

Mitigation activities in and around cultural sites has the potential to affect historic places. In all cases, the mitigation work will be intended to reduce the potential of damaging the site. Areas where ground disturbance will occur will need to be inventoried depending on the location. Ground-disturbing actions may include, but are not limited to, constructed fire lines (hand line, mechanical line, etc.), new roads to creeks to fill water tankers, mechanical treatments, etc. Traditional Cultural Properties (TCPs) will also need to be identified. Potential impact to TCPs will depend on what values make the property important and will be assessed on an individual basis.

3.3.1 National Register of Historic Places

The National Park Service maintains the National Register of Historical Places as a repository of information on significant cultural locale. These may be buildings, roads or trails, places where historical events took place, or other noteworthy sites. These sites are summarized in Table 3.1.

Table 3.1. National Register of Historic Places in Spokane County, Washington.

Item Number	Resource Name	City	Listed
1	American Firebrick Co.	Mica	1982
2	Amman Building	Spokane	1987
3	Alonzo and Louise Barnett House	Spokane	2003
4	Benewah Milk Bottle	Spokane	1986
5	J.W. Binkley House	Spokane	1989
6	Breslin Building	Spokane	1989
7	Kenneth and Edna Brooks	Spokane	2004
8	Browne's Addition Historic District	Spokane	1976
9	Bump Block-Bellevue House-Hawthorne Hotel	Spokane	2000
10	California Ranch	Mica	1980
11	Cambern Dutch Shop Windmill	Spokane	1989
12	Campbell House	Spokane	1974
13	Central Schoolhouse	Nine Mile Falls	1992
14	Central Steam Heat Plant	Spokane	1996
15	Cheney Interurban Depot	Cheney	1979
16	Cheney Odd Fellows Hall	Cheney	1990
17	City of Cheney Historic District	Cheney	2001
18	Clark Mansion	Spokane	1975
19	Clemmer Theater	Spokane	1988
20	Commercial Block	Spokane	1993
21	Coolidge-Rising House	Spokane	1993
22	Corbet-Aspray House	Spokane	1999

Table 3.1. National Register of Historic Places in Spokane County, Washington.			
Item Number	**Resource Name**	**City**	**Listed**
23	Corbin Park Historic District	Spokane	1992
24	Daniel and Anna Corbin House	Spokane	2004
25	Cowley Park	Spokane	1973
26	Davenport Hotel	Spokane	1975
27	Desmet Avenue Warehouse Historic District	Spokane	1997
28	Dybdall Gristmill	Cheney	1976
29	East Downtown Historic District	Spokane	2003
30	Eldridge Building	Spokane	1992
31	Empire State Building	Spokane	1977
32	Fairmont Hotel	Spokane	2001
33	Felts Field Historic District	Spokane	1991
34	Finch House	Spokane	1991
35	John A. Finch Memorial Nurses Home	Spokane	1991
36	First Congregational Church of Spokane	Spokane	1978
37	Five Mile Prairie School	Spokane	2004
38	Fort George Wright Historic District	Spokane	1976
39	Fox Theater	Spokane	2001
40	Frequency Changing Station	Spokane	1979
41	W.P. Fuller and Co. Warehouse	Spokane	1996
42	Globe Hotel	Spokane	1998
43	Glover House	Spokane	1973
44	Grace Baptist Church	Spokane	1992
45	Hallett House	Medical Lake	1976
46	Ham-McEachern House	Latah	1978
47	Hillyard Historic Business District	Spokane	2002
48	Holley-Mason Building	Spokane	1983
49	Holy Names Academy Building	Spokane	1986

(NRHP 2003)

Other cultural resources in Spokane County that are not currently listed on the National Register of Historic Places include the Spokane House Interpretive Center and the Indian Painted Rocks, both in the Nine Mile area.

3.4 Transportation & Infrastructure

The transportation system within the County is comprised of a significant number of roads, several airports, a rail line and an extensive trail system. Access is an important component in hazard mitigation planning.

Interstate 90 runs through the heart of Spokane County traveling through the major population and economic hubs of Spokane and Spokane Valley. Additionally, U.S. Highways 2, 195, and 395 and State Highways 27, 278, 290, 291, 902, and 904 provide paved linkages to many of the more rural communities throughout the County. There are also numerous county and city maintained routes accessing much of the unincorporated areas of the County. These routes are generally paved as well.

Primary and secondary access routes were identified by committee members and amended by the public during meetings. These routes identify the primary access routes into and out of the county that are relied on during emergencies. As such, they often receive prioritized treatment when allocating resources for hazard abatement. There are approximately 123 miles of interstate highway and 239 miles of state highways in Spokane County.

The Spokane International Airport is located between Highway 2 and 395 just west of the City of Spokane. The Spokane Airport supports 10 passenger carrier airlines as well as four air cargo carriers. There are also numerous municipal airports serving many of the smaller communities in rural Spokane County.

Burlington Northern Santa Fe and Union Pacific maintain several active railroad lines in Spokane County. These lines form a hub in Spokane with tracks running north along Highway 395, east towards Coeur d'Alene, Idaho, south along Highway 27, and southwest paralleling Highway 395. AmTrack also offers passenger services on their Chicago, St. Paul, Portland/Seattle route.

3.4.1 Communication Sites

A list of names and locations of communication sites throughout Spokane and neighboring counties is available in the Spokane County Field Operations Guide.

3.5 Vegetation & Climate

Vegetation cover types identified in Spokane County were determined with LANDFIRE Project data developed by the United States Forest Service, Rocky Mountain Research Station, USGS EROS, and other participants. Vegetation is mapped using predictive landscape models based on extensive field reference data, satellite imagery, biophysical gradient layers, and classification and regression analysis.

LANDFIRE Existing Vegetation Cover data used in this section was developed by the LANDFIRE Project for regional representation. LANDFIRE data products are designed to facilitate national and regional level strategic planning and reporting of wildland fire management activities. Data products are created at a 30-meter grid spatial resolution raster data set. This information is an approximate representation of the general conditions present in an area and should be used for reference only (USDI 2008).

The most represented vegetated cover type is Cultivated Crops and Irrigated Agriculture (Table 3.2).

Table 3.2. Vegetative Cover Types in Spokane County.

Cover	Acres	Percent
Agriculture-Cultivated Crops and Irrigated Agriculture	354,456	31.1%
Agriculture-Pasture/Hay	16,129	1.4%
Artemisia tridentata ssp. vaseyana Shrubland Alliance	10,832	1.0%
Barren	1,352	0.1%
Columbia Basin Foothill and Canyon Dry Grassland	77	0.0%
Columbia Basin Palouse Prairie	102	0.0%
Columbia Plateau Low Sagebrush Steppe	29,641	2.6%
Columbia Plateau Scabland Shrubland	60,437	5.3%
Columbia Plateau Steppe and Grassland	9,055	0.8%
Developed-High Intensity	5,192	0.5%

Table 3.2. Vegetative Cover Types in Spokane County.

Cover	Acres	Percent
Developed-Low Intensity	43,954	3.9%
Developed-Medium Intensity	26,777	2.4%
Developed-Open Space	34,635	3.0%
Great Basin Xeric Mixed Sagebrush Shrubland	1,638	0.1%
Inter-Mountain Basins Aspen-Mixed Conifer Forest and Woodland	131	0.0%
Inter-Mountain Basins Big Sagebrush Shrubland	18,821	1.7%
Inter-Mountain Basins Big Sagebrush Steppe	52,691	4.6%
Inter-Mountain Basins Montane Riparian Systems	14,981	1.3%
Inter-Mountain Basins Montane Sagebrush Steppe	26,404	2.3%
Inter-Mountain Basins Mountain Mahogany Woodland and Shrubland	1	0.0%
Inter-Mountain Basins Sparsely Vegetated Systems	186	0.0%
Introduced Upland Vegetation - Annual Grassland	9,244	0.8%
Introduced Upland Vegetation - Perennial Grassland and Forbland	95,416	8.4%
Larix occidentalis Forest Alliance	42	0.0%
Middle Rocky Mountain Montane Douglas-fir Forest and Woodland	1,412	0.1%
Northern Rocky Mountain Avalanche Chute Shrubland	2	0.0%
Northern Rocky Mountain Conifer Swamp	4	0.0%
Northern Rocky Mountain Dry-Mesic Montane Mixed Conifer Forest	55,084	4.8%
Northern Rocky Mountain Foothill Conifer Wooded Steppe	3	0.0%
Northern Rocky Mountain Lower Montane-Foothill-Valley Grassland	29,954	2.6%
Northern Rocky Mountain Mesic Montane Mixed Conifer Forest	39,958	3.5%
Northern Rocky Mountain Montane-Foothill Deciduous Shrubland	2,483	0.2%
Northern Rocky Mountain Ponderosa Pine Woodland and Savanna	54,202	4.8%
Northern Rocky Mountain Subalpine Deciduous Shrubland	142	0.0%
Northern Rocky Mountain Subalpine-Upper Montane Grassland	140	0.0%
Open Water	10,205	0.9%
Pseudotsuga menziesii Forest Alliance	101,645	8.9%
Rocky Mountain Alpine/Montane Sparsely Vegetated Systems	52	0.0%
Rocky Mountain Aspen Forest and Woodland	173	0.0%
Rocky Mountain Lodgepole Pine Forest	27	0.0%
Rocky Mountain Montane Riparian Systems	18,725	1.6%
Rocky Mountain Poor-Site Lodgepole Pine Forest	32	0.0%
Rocky Mountain Subalpine Dry-Mesic Spruce-Fir Forest and Woodland	5	0.0%
Rocky Mountain Subalpine Wet-Mesic Spruce-Fir Forest and Woodland	3,545	0.3%
Rocky Mountain Subalpine/Upper Montane Riparian Systems	8	0.0%
Rocky Mountain Subalpine-Montane Mesic Meadow	8,360	0.7%
Total	**1,138,356**	**100.0%**

3.5.1 Monthly Climate Summaries in Spokane County

3.5.1.1 Deer Park Washington

Period of Record : 7/4/1948 to 3/31/1977

Table 3.3. Monthly climate records for Deer Park, Spokane County, Washington.

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Average Max. Temperature (F)	31.6	39.1	46.6	57.7	68.3	74.9	85.0	82.9	73.5	59.1	41.9	33.9	57.9
Average Min. Temperature (F)	16.1	21.1	25.0	31.5	39.2	45.0	48.5	46.5	39.7	31.3	26.8	20.8	32.6
Average Total Precipitation (in.)	2.99	2.12	1.80	1.61	1.65	1.59	0.62	0.86	0.98	1.82	3.01	3.37	22.44
Average Total SnowFall (in.)	17.6	5.6	2.7	0.2	0.0	0.0	0.0	0.0	0.0	0.2	4.9	13.6	45.0
Average Snow Depth (in.)	8	5	1	0	0	0	0	0	0	0	0	5	2

Percent of possible observations for period of record. Max. Temp.: 87.5% Min. Temp.: 87.9% Precipitation: 99.3% Snowfall: 89.3% Snow Depth: 62.2%

3.5.1.2 Spokane, Washington

Period of Record : 11/19/1953 to 10/31/1983

Table 3.4. Monthly climate records for Colville, Spokane County, Washington.

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Average Max. Temperature (F)	34.5	42.5	49.6	59.2	68.8	76.8	85.8	84.5	74.4	60.3	44.0	37.1	59.8
Average Min. Temperature (F)	23.9	28.8	31.2	36.8	44.3	51.2	56.0	54.7	47.2	38.4	31.5	27.2	39.3
Average Total Precipitation (in.)	2.24	1.65	1.56	1.25	1.52	1.33	0.56	0.79	0.86	1.13	2.16	2.58	17.62
Average Total SnowFall (in.)	8.3	1.4	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.9	10.7
Average Snow Depth (in.)	2	1	0	0	0	0	0	0	0	0	0	0	0

Percent of possible observations for period of record. Max. Temp.: 96.9% Min. Temp.: 97% Precipitation: 97.8% Snowfall: 60.3% Snow Depth: 57.9%

3.6 Air Quality

The primary means by which the protection and enhancement of air quality is accomplished is through implementation of National Ambient Air Quality Standards (NAAQS). These standards address six pollutants known to harm human health including ozone, carbon monoxide, particulate matter, sulfur dioxide, lead, and nitrogen oxides (USDA Forest Service 2000).

The Clean Air Act, passed in 1963 and amended in 1977, is the primary legal authority governing air resource management. The Clean Air Act provides the principal framework for national, state, and local efforts to protect air quality. Under the Clean Air Act, OAQPS (Office for Air Quality Planning and Standards) is responsible for setting standards, also known as national ambient air quality standards (NAAQS), for pollutants which are considered harmful to people and the environment. OAQPS is also responsible for ensuring these air quality standards are met, or attained (in cooperation with state, Tribal, and local governments) through national standards and strategies to control pollutant emissions from automobiles, factories, and other sources (Louks 2001).

Smoke emissions from fires potentially affect an area and the airsheds that surround it. Climatic conditions affecting air quality in northeast Washington are governed by a combination of factors. Large-scale influences include latitude, altitude, prevailing hemispheric wind patterns, and mountain barriers. At a smaller scale, topography and vegetation cover also affect air movement patterns. Air quality in the area is generally moderate to good. However, locally adverse conditions can result from occasional wildland fires in the summer and fall, and prescribed fire and agricultural burning in the spring and fall. All major river drainages are subject to temperature inversions which trap smoke and affect dispersion, causing local air quality problems. This occurs most often during the summer and fall months and would potentially affect all communities in Spokane County. Winter time inversions are less frequent, but are more apt to trap smoke from heating, winter silvicultural burning, and pollution from other sources.

3.6.1 Spokane Regional Clean Air Agency

The Spokane Regional Clean Air Agency administers federal, state, and local air pollution regulations throughout Spokane County. A network of seven air quality monitoring stations are located throughout Spokane County. To better assess air quality in outlying areas of the county, three new locations are being added to the network in 2008 in Airway Heights, Deer Park, and Spokane Valley. The air monitoring information obtained helps predict daily air quality conditions and significant events (e.g. air stagnations), call burn bans, measure and report air quality in our communities, and operate a "Clean Air Network" to notify businesses and individual subscribers via email of air quality changes and clean air actions.

The vast majority of air pollution comes from individual behaviors, which is why the Spokane Regional Clean Air Agency provides a host of education and outreach programs. Public awareness of air pollution problems and solutions are key to achieving long term behavior change that will result in clean, healthful air. They partner in educational programs and incentives to encourage people to make cleaner choices whenever feasible.

The Spokane Regional Clean Air Agency also conducts facility inspections and compliance assistance for approximately 650 commercial and industrial operations in the area. This includes issuing federally required permits and providing technical workshops and other resource materials.

The Spokane Regional Clean Air Agency's designated No Burn Areas for residential burning is evaluated every three years pursuant to WAC 173-425-040(5) to determine if it should be expanded. In addition, residential burning is prohibited in all urban growth areas (UGA) per WAC 173-425-040(2). For abating fire hazards created by the accumulation of natural vegetation which are inside the No Burn Area and/or inside an UGA, the fire district may enter into a Fire Hazard Abatement Burning Agreement with the Clean Air Agency.

3.6.2 Washington State Smoke Management Plan

The Department of Natural Resources (DNR), Department of Ecology (DOE), U.S. Forest Service (USDA), National Park Service (NPS), Bureau of Land Management (BLM), U.S Fish and Wildlife Service (USDI), participating Indian nations, military installations (DOD), and small and large forest landowners have worked together to deal with the effect of outdoor burning on air.

Protection of public health and preservation of the natural attractions of the state are high priorities and can be accomplished along with a limited, but necessary, outdoor burning program. Public health, public safety, and forest health can all be served through the application

of the provisions of Washington State law and this plan, and with the willingness of those who do outdoor burning on forest lands to further reduce the negative effects of their burning.

The Washington State Smoke Management Plan pertains to DNR-regulated silvicultural outdoor burning only and does not include agricultural outdoor burning or outdoor burning that occurs on improved property. Although the portion of total outdoor burning covered by this plan is less than 10 percent of the total air pollution in Washington, it remains a significant and visible source.

The purpose of the Washington State Smoke Management Plan is to coordinate and facilitate the statewide regulation of prescribed outdoor burning on lands protected by the DNR and on unimproved, federally-managed forest lands and participating tribal lands. The plan is designed to meet the requirements of the Washington Clean Air Act.

The plan provides regulatory direction, operating procedures, and advisory information regarding the management of smoke and fuels on the forest lands of Washington State. It applies to all persons, landowners, companies, state and federal land management agencies, and others who do outdoor burning in Washington State on lands where the DNR provides fire protection, or where such burning occurs on federally-managed, unimproved forest lands and tribal lands of participating Indian nations in the state.

The plan does not apply to agricultural outdoor burning and open burning as defined by Washington Administrative Code (WAC) 173-425-030 (1) and (2), nor to burning done "by rule" under WAC 332-24 or on non-forested wildlands (e.g., range lands). All future reference to burning in this plan will refer only to silvicultural burning unless otherwise indicated.

3.7 Hydrology

The Washington Department of Ecology & Water Resources Program is charged with the development of the Washington State Water Plan. Included in the State Water Plan are the statewide water policy plan and component basin and water body plans which cover specific geographic areas of the state (WDOE 2005). The Washington Department of Ecology has prepared general lithologies of the major ground water flow systems in Washington.

The state may assign or designate beneficial uses for particular Washington water bodies to support. These beneficial uses are identified in section WAC 173-201A-200 of the Washington Surface Water Quality Standards (WQS). These uses include:

- **Aquatic Life Uses:** char; salmonid and trout spawning, rearing, and migration; nonanadromous interior redband trout, and indigenous warm water species
- **Recreational Uses:** primary (swimming) and secondary (boating) contact recreation
- **Water Supply Uses:** domestic, agricultural, and industrial; and stock watering

While there may be competing beneficial uses in streams, federal law requires protection of the most sensitive of these beneficial uses.

The geology and soils of this region lead to rapid to moderate moisture infiltration. Slopes are moderate to steep, however, headwater characteristics of the watersheds lead to a high degree of infiltration as opposed to a propensity for overland flow. Thus sediment delivery efficiency of first and third order streams is fairly low. The bedrock is typically well fractured and moderately soft. This fracturing allows excessive soil moisture to infiltrate into the rock and thus surface runoff is rare. Natural mass stability hazards associated with slides are low. Natural sediment yields are low for these watersheds. However, disrupted vegetation patterns from logging (soil compaction), farming, road construction, and wildland fire (especially hot fires that increase soil

hydrophobic characteristics) can lead to increased surface runoff and debris flow to stream channels.

A correlation to mass wasting due to the removal of vegetation caused by high intensity wildland fire has been documented. Burned vegetation can result in changes in soil moisture and loss of rooting strength that can result in slope instability, especially on slopes greater than 30%. The greatest watershed impacts from increased sediment will be in the lower gradient, depositional stream reaches.

Of critical importance to Spokane County will be the maintenance of the domestic watershed supplies in the Lower Spokane Watershed (WRIA 54), Little Spokane Watershed (WRIA 55), Hangman Watershed (WRIA 56), and the Middle Spokane Watershed (WRIA 57).

Timberlands in the region have been extensively harvested for the past several decades, therefore altering riparian function by removing streamside shade and changing historic sediment deposition. Riparian function and channel characteristics have been altered by farming, ranching, and residential areas as well. The current conditions of wetlands and floodplains are variable.

Chapter 4

4 Risk and Preparedness Assessments

4.1 Wildland Fire Characteristics

An informed discussion of fire mitigation is not complete until basic concepts that govern fire behavior are understood. In the broadest sense, wildland fire behavior describes how fires burn; the manner in which fuels ignite, how flames develop and how fire spreads across the landscape. The three major physical components that determine fire behavior are the fuels supporting the fire, topography in which the fire is burning, and the weather and atmospheric conditions during a fire event. At the landscape level, both topography and weather are beyond our control. We are powerless to control winds, temperature, relative humidity, atmospheric instability, slope, aspect, elevation, and landforms. It is beyond our control to alter these conditions, and thus impossible to alter fire behavior through their manipulation. When we attempt to alter how fires burn, we are left with manipulating the third component of the fire environment; fuels which support the fire. By altering fuel loading and fuel continuity across the landscape, we have the best opportunity to determine how fires burn.

A brief description of each of the fire environment elements follows in order to illustrate their effect on fire behavior.

4.1.1 Weather

Weather conditions contribute significantly to determining fire behavior. Wind, moisture, temperature, and relative humidity ultimately determine the rates at which fuels dry and vegetation cures, and whether fuel conditions become dry enough to sustain an ignition. Once conditions are capable of sustaining a fire, atmospheric stability and wind speed and direction can have a significant affect on fire behavior. Winds fan fires with oxygen, increasing the rate at which fire spreads across the landscape. Weather is the most unpredictable component governing fire behavior, constantly changing in time and across the landscape.

4.1.2 Topography

Fires burning in similar fuel conditions burn dramatically different under different topographic conditions. Topography alters heat transfer and localized weather conditions, which in turn influence vegetative growth and resulting fuels. Changes in slope and aspect can have significant influences on how fires burn. Generally speaking, north slopes tend to be cooler, wetter, more productive sites. This can lead to heavy fuel accumulations, with high fuel moistures, later curing of fuels, and lower rates of spread. In contrast, south and west slopes tend to receive more direct sun, and thus have the highest temperatures, lowest soil and fuel moistures, and lightest fuels. The combination of light fuels and dry sites lead to fires that typically display the highest rates of spread. These slopes also tend to be on the windward side of mountains. Thus these slopes tend to be “available to burn” a greater portion of the year.

Slope also plays a significant roll in fire spread, by allowing preheating of fuels upslope of the burning fire. As slope increases, rate of spread and flame lengths tend to increase. Therefore, we can expect the fastest rates of spread on steep, warm south and west slopes with fuels that are exposed to the wind.

4.1.3 Fuels

Fuel is any material that can ignite and burn. Fuels describe any organic material, dead or alive, found in the fire environment. Grasses, brush, branches, logs, logging slash, forest floor litter, conifer needles, and buildings are all examples. The physical properties and characteristics of fuels govern how fires burn. Fuel loading, size and shape, moisture content and continuity and arrangement all have an affect on fire behavior. Generally speaking, the smaller and finer the fuels, the faster the potential rate of fire spread. Small fuels such as grass, needle litter and other fuels less than a quarter inch in diameter are most responsible for fire spread. In fact, "fine" fuels, with high surface to volume ratios, are considered the primary carriers of surface fire. This is apparent to anyone who has ever witnessed the speed at which grass fires burn. As fuel size increases, the rate of spread tends to decrease, as surface to volume ratio decreases. Fires in large fuels generally burn at a slower rate, but release much more energy, burn with much greater intensity. This increased energy release, or intensity, makes these fires more difficult to control. Thus, it is much easier to control a fire burning in grass than to control a fire burning in timber.

When burning under a forest canopy, the increased intensities can lead to torching (single trees becoming completely involved) and potentially development of crown fire (fire carried from tree crown to tree crown). That is, they release much more energy. Fuels are found in combinations of types, amounts, sizes, shapes, and arrangements. It is the unique combination of these factors, along with the topography and weather, which determine how fires will burn.

The study of fire behavior recognizes the dramatic and often-unexpected affect small changes in any single component has on how fires burn. It is impossible to speak in specific terms when predicting how a fire will burn under any given set of conditions. However, through countless observations and repeated research, some of the principles that govern fire behavior have been identified and are recognized.

4.2 Wildfire Ignition and Extent Profile

The severity of a fire season can usually be determined in the spring by how much precipitation is received, which in turn, determines how much fine fuel growth there is and how long it takes this growth to cure out. These factors, combined with annual wind events in late summer, drastically increase the chance a fire start will grow and resist suppression activities. Furthermore, harvest is also occurring at this time. Occasionally, harvesting equipment causes an ignition that can spread into populated areas and timberlands.

Fire was once an integral function of the majority of ecosystems in eastern Washington. The seasonal cycling of fire across the landscape was as regular as the July, August, and September lightning storms plying across the mountains. Depending on the plant community composition, structural configuration, and buildup of plant biomass, fire resulted from ignitions with varying intensities and extent across the landscape. Shorter return intervals between fire events often resulted in less dramatic changes in plant composition (Johnson 1998). The fires burned from 1 to 47 years apart, with most at 5- to 20-year intervals (Barrett 1979). With infrequent return intervals, plant communities tended to burn more severely and be replaced by vegetation different in composition, structure, and age (Johnson *et al.* 1994). Native plant communities in this region developed under the influence of fire, and adaptations to fire are evident at the species, community, and ecosystem levels. Fire history data (from fire scars and charcoal deposits) suggest fire has played an important role in shaping the vegetation in the Columbia Basin for thousands of years (Steele *et al.* 1986, Agee 1993).

Detailed records of fire ignitions and extents have been compiled by the Washington Department of Natural Resources. Using the data on past fire extents and ignition, the occurrence of wildland fires in the region of Spokane County has been evaluated.

The Washington Department of Natural Resources database used in this analysis includes ignition and extent data from 2003 through 2007 for wildfires occurring on DNR protected lands. An analysis of the DNR reported wildfire ignitions in Spokane County reveals that during this period approximately 3,230 acres burned as a result of 554 wildfire ignitions. The Miscellaneous ignition source category resulted in both the most number of ignitions and the most acres burned followed closely by debris burning. Comparatively, the children and recreation categories contributed to a significant amount of ignitions but account for a fairly low percentage of the total acres burned. An average of 111 fires per year was recorded during this period.

Table 4.1. Summary of ignitions in Spokane County from Washington DNR database 2003-2007.

Cause	Acres Burned	Percent	Number of Ignitions	Percent
Arson	146	5%	15	3%
Children	42	1%	70	13%
Debris Burning	130	4%	100	18%
Fireworks	13	0%	22	4%
Lightning	80	2%	85	15%
Logging	2	0%	3	1%
Miscellaneous	173	5%	58	10%
Power line	534	17%	47	8%
Railroad	438	14%	18	3%
Recreation	79	2%	49	9%
Smoking	1139	35%	15	3%
Sparks (Equipment)	410	13%	29	5%
Sparks (Vehicle)	16	0%	14	3%
Structure Fire	13	0%	6	1%
Under Investigation	1	0%	3	1%
Unknown	13	0%	16	3%
Vehicle Fire	1	0%	4	1%
Total	**3,230**	**100%**	**554**	**100%**

The “Miscellaneous” category includes ignitions originating from burning material from aircraft, electric fence, hot ashes, spontaneous combustion (other than sawdust piles), use of fire (other than logging), woodcutting, and an “other” category.

Figure 4.1. Number of Ignitions in Spokane County as Recorded by Washington DNR 2003-2007.

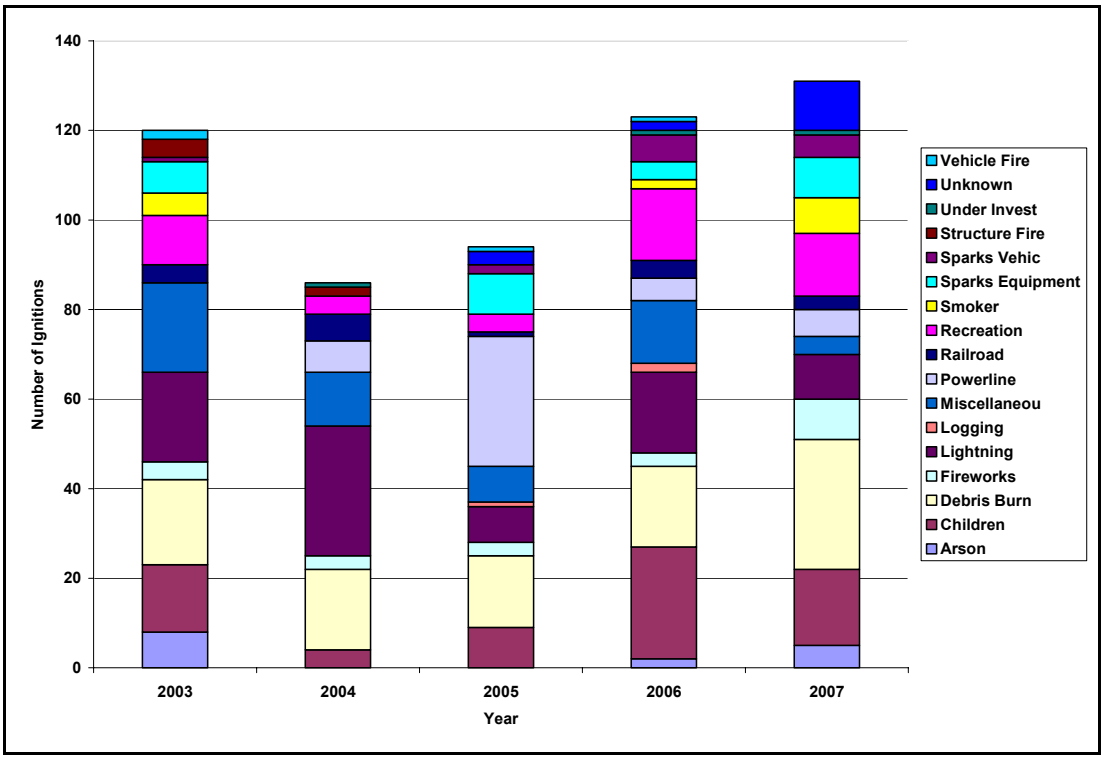
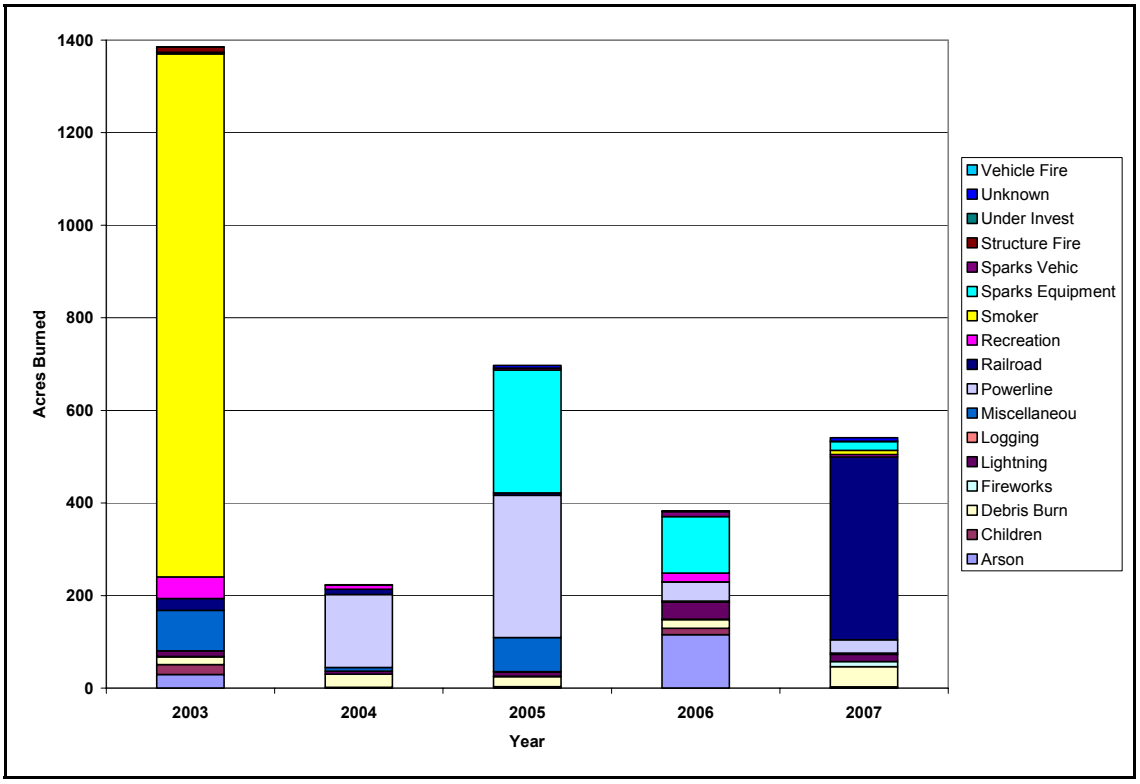


Figure 4.2. Acres Burned in Spokane County as Recorded by the Washington DNR 2003-2007.



In 1991, several small fires caused by downed power lines were fanned into a firestorm on October 16th. On all ownerships in Spokane County, it has been reported that 92 individual fires consumed 35,000 acres, caused two deaths, and resulted in $15 million in damages (Kootenai County 2001).

Across the west, wildfires have been increasing in extent and cost of control. The National Interagency Fire Center (2007) reported over 96,000 wildfires in 2006 which burned a total of 9.9 million acres and cost over $900 million in containment. Due to recent fires across, local firefighting agencies and residents believe that they are at very high risk to a large wildfire occurrence. Active fuels management programs coupled with public awareness campaigns are a high priority for lessening this risk.

4.3 Wildfire Hazard Analysis

Spokane County and the nearby counties of Ferry, Stevens, and Pend Oreille were analyzed using a variety of techniques, managed on a GIS system. Physical features of this region were represented by data layers including roads, streams, soils, elevation, and remotely sensed images. Field visits were conducted by specialists from Northwest Management, Inc. and others. Discussions with area residents and fire control specialists augmented field visits and provided insights to forest health issues and treatment options.

This information was analyzed and combined to develop an assessment of wildland fire risk in the region.

4.3.1 Historic Fire Regime

In the fire-adapted ecosystems of Washington, fire is undoubtedly the dominant process in terrestrial systems that constrain vegetation patterns, habitats, and ultimately, species composition. Land managers need to understand historical fire regimes (that is, fire frequency and fire severity prior to settlement by Euro-Americans) to be able to define ecologically appropriate goals and objectives for an area. Moreover, managers need spatially explicit knowledge of how historical fire regimes vary across the landscape.

Many ecological assessments are enhanced by the characterization of the historical range of variability which helps managers understand: (1) how the driving ecosystem processes vary from site to site; (2) how these processes affected ecosystems in the past; and (3) how these processes might affect the ecosystems of today and the future. Obviously, historical fire regimes are a critical component for characterizing the historical range of variability in the fire-adapted ecosystems of Washington. Furthermore, understanding ecosystem departures provides the necessary context for managing sustainable ecosystems. Land managers need to understand how ecosystem processes and functions have changed prior to developing strategies to maintain or restore sustainable systems. In addition, the concept of departure is a key factor for assessing risks to ecosystem components. For example, the departure from historical fire regimes may serve as a useful proxy for the potential of severe fire effects from an ecological perspective.

Fire is the dominant disturbance process that manipulates vegetation patterns in Washington. The historic fire regime (HFR) data were prepared to supplement other data necessary to assess integrated risks and opportunities at regional and subregional scales. The HFR theme was derived specifically to estimate an index of the relative change of a disturbance process, and the subsequent patterns of vegetation composition and structure.

4.3.1.1 Historic Fire Function

A natural fire regime is a general classification of the role fire would play across a landscape in the absence of modern human mechanical intervention, but including the influence of aboriginal burning (Agee 1993, Brown 1995). The historic fire regimes data represents an integration of the spatial fire regime characteristics of frequency and severity simulated using a vegetation and disturbance dynamics model. These groups are intended to characterize the presumed historical fire regimes within landscapes based on interactions between vegetation dynamics, fire spread, fire effects, and spatial context. The five regimes are described as follows:

I – 0-35 year frequency and low (surface fires most common) to mixed severity (less than 75% of the dominant overstory vegetation replaced);

II – 0-35 year frequency and high (stand replacement) severity (greater than 75% of the dominant overstory vegetation replaced);

III – 35-200 year frequency and low to mixed severity

IV – 35-200 year frequency and high severity;

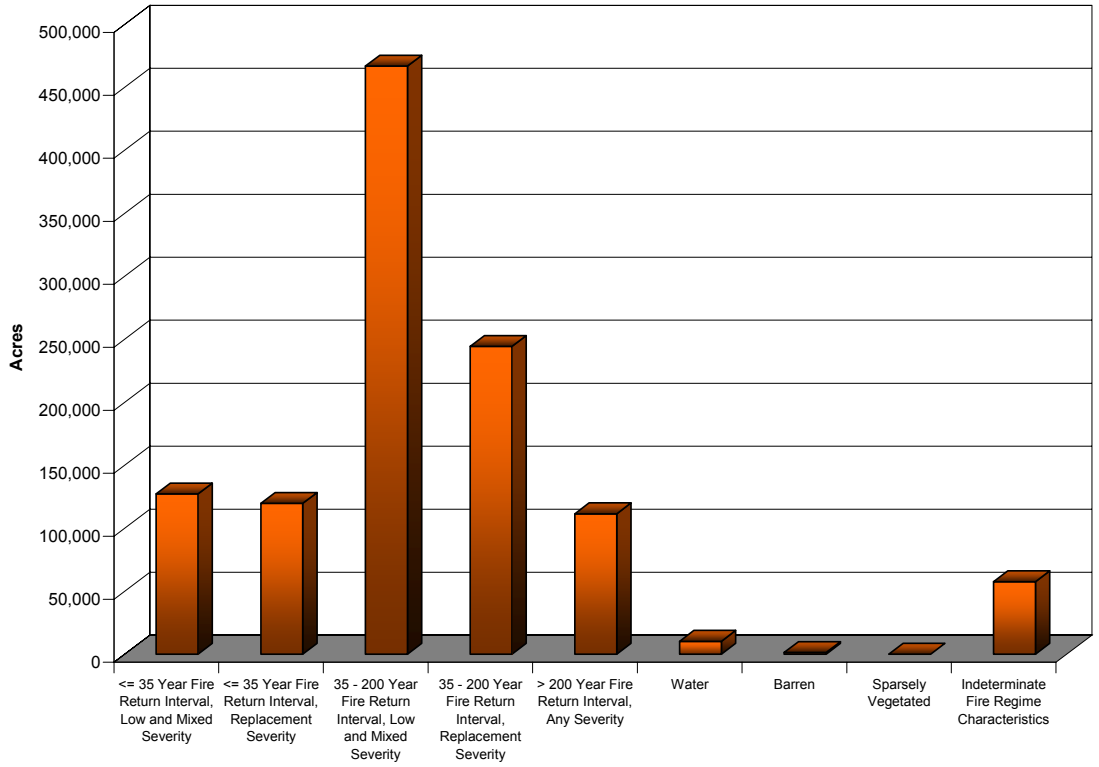
V – 200+ year frequency and any severity.

Historic fire regime data used in this document was developed by the LANDFIRE Project for regional representation. LANDFIRE data products are designed to facilitate national and regional level strategic planning and reporting of wildland fire management activities. Data products are created at a 30-meter grid spatial resolution raster data set. This information is an approximate representation of the general conditions present in an area and should be used for reference only (USDI 2008).

Table 4.2. Assessment of Historic Fire Regimes in Spokane County (2008).

Regime	Description	Acres	Percent
I	0-35 Year Return Interval, Low & Mixed Severity	127,191	11.2%
II	0-35 Year Return Interval, Stand Replacing	119,670	10.5%
III	35-200 Year Return Interval, Low & Mixed Severity	466,747	41.0%
IV	35-200 Year Return Interval, Stand Replacing	244,265	21.5%
V	200+ Year Return Interval, Any Severity	111,375	9.8%
	Water	10,205	0.9%
	Barren	1,352	0.1%
	Sparsely Vegetated	0	0.0%
	Indeterminate Regime Characteristics	57,550	5.1%
	Total	**1,138,356**	**100.0%**

Figure 4.3. Historic Fire Regimes in Spokane County (2008).



A map of the Historic Fire Regimes in Spokane County is included in Appendix I.

4.3.2 Fire Regime Condition Class

A fire regime condition class (FRCC) is a classification of the amount of departure from the natural regime. Fire regime condition class is a discrete metric that quantifies the amount that current vegetation has departed from the simulated historical vegetation reference conditions. The three condition classes describe low departure (FRCC 1), moderate departure (FRCC 2), and high departure (FRCC 3). This departure is calculated based on changes to species composition, structural stage, and canopy closure.

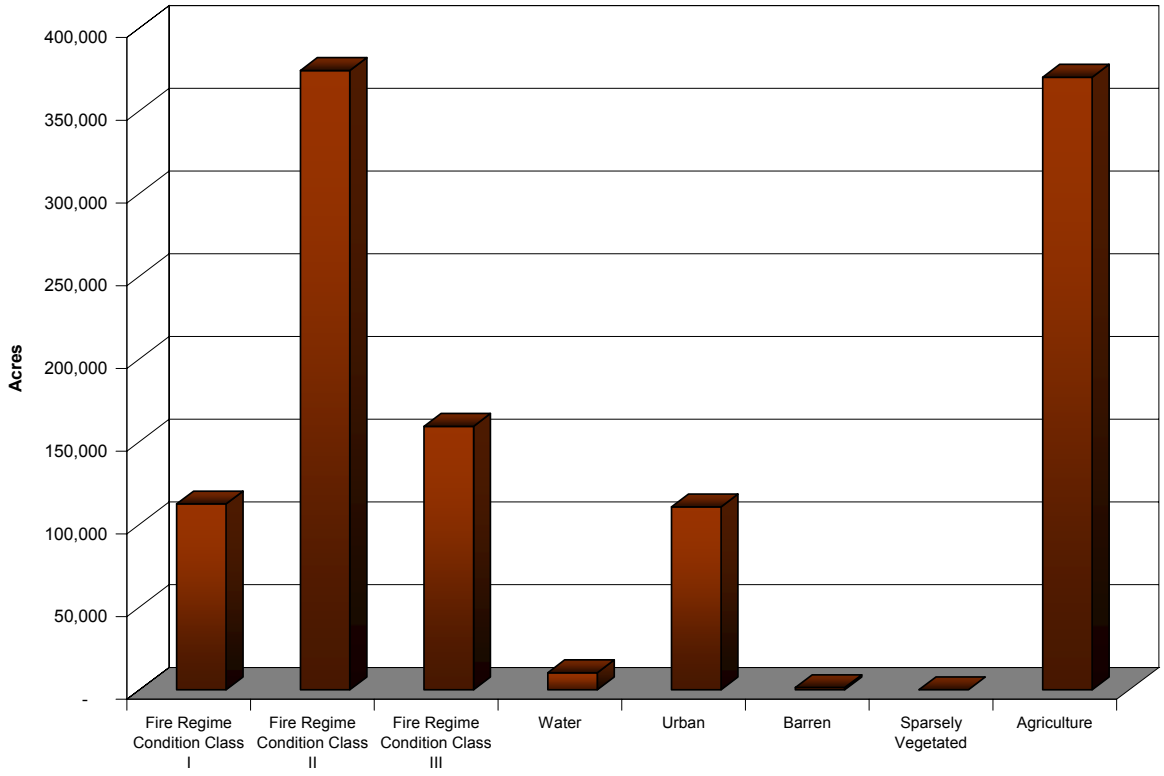
FRCC data used in this report was developed by the LANDFIRE Project for regional representation. LANDFIRE data products are designed to facilitate national and regional level strategic planning and reporting of wildland fire management activities. Data products are created at a 30-meter grid spatial resolution raster data set. This information is an approximate representation of the general conditions present in an area and should be used for reference only.

A map of the Fire Regime Condition Classes in Spokane County is included in Appendix I.

An analysis of Fire Regime Condition Classes in Spokane County shows that only about 10% of the county is in Condition Class 1 (low departure), approximately 33% is in Condition Class 2 (moderate departure), with 14% of the area in Condition Class 3 (Table 4.3). Water and agricultural land is considered separately because they cannot be compared to historic fire regimes.

Table 4.3. Assessment of Current Condition Class in Spokane County (2000).		
Fire Regime Condition Class	**Acres**	**Percent of Area**
Fire Regime Condition Class I	112,370	9.9%
Fire Regime Condition Class II	374,321	32.9%
Fire Regime Condition Class III	159,195	14.0%
Water	10,328	0.9%
Urban	110,507	9.7%
Barren	1,357	0.1%
Sparsely Vegetated	0	0.0%
Agricultural	370,279	32.5%
Total	**1,138,356**	**100.0%**

Figure 4.4. Fire Regime Condition in Spokane County (2000).



The Spokane County Fire Regime Condition Class Map is included in Appendix I.

4.4 Spokane County's Wildland-Urban Interface

The Wildland-Urban Interface has gained attention through efforts targeted at wildfire mitigation; however, this analysis technique is also useful when considering other hazards because the concept looks at where people and structures are concentrated in any particular region. For Spokane County, the WUI shows the relative concentrations of structures scattered across the county.

A key component in meeting the underlying need for protection of people and structures is the protection and treatment of hazards in the wildland-urban interface. The wildland-urban

interface refers to areas where wildland vegetation meets urban developments, or where forest fuels meet urban fuels in the case of wildfires (such as houses). These areas encompass not only the interface (areas immediately adjacent to urban development), but also the continuous slopes that lead directly to a risk to urban developments be it from wildfire, landslides, or floods. Reducing the hazard in the wildland-urban interface requires the efforts of federal, state, and local agencies and private individuals (Norton 2002). The role of most federal agencies in the wildland-urban interface includes wildland firefighting, hazard fuels reduction, cooperative prevention and education and technical experience. Structural fire protection during a wildfire in the wildland urban interface is largely the responsibility of state and local governments (USFS 2001). Property owners share a responsibility to protect their residences and businesses and minimize danger by creating defensible areas around them and taking other measures to minimize the risks to their structures (USFS 2001). With treatment, a wildland-urban interface can provide firefighters a defensible area from which to suppress wildland fires or defend communities against other hazard risks. In addition, a wildland-urban interface that is properly thinned will be less likely to sustain a crown fire that enters or originates within it (Norton 2002).

By reducing hazardous fuel loads, ladder fuels, and tree densities, and creating new and reinforcing defensible space, landowners would protect the wildland-urban interface, the biological resources of the management area, and adjacent property owners by:

- minimizing the potential of high-severity ground or crown fires entering or leaving the area;
- reducing the potential for firebrands (embers carried by the wind in front of the wildfire) impacting the WUI. Research indicates that flying sparks and embers (firebrands) from a crown fire can ignite additional wildfires as far as 1¼ miles away during periods of extreme fire weather and fire behavior (McCoy *et al.* 2001);
- improving defensible space in the immediate areas for suppression efforts in the event of wildland fire.

Three wildland-urban interface conditions have been identified (Federal Register 66(3), January 4, 2001) for use in wildfire control efforts. These include the Interface Condition, Intermix Condition, and Occluded Condition. Descriptions of each are as follows:

- **Interface Condition** – a situation where structures abut wildland fuels. There is a clear line of demarcation between the structures and the wildland fuels along roads or back fences. The development density for an interface condition is usually 3+ structures per acre;
- **Intermix Condition** – a situation where structures are scattered throughout a wildland area. There is no clear line of demarcation, the wildland fuels are continuous outside of and within the developed area. The development density in the intermix ranges from structures very close together to one structure per 40 acres;
- **Occluded Condition** – a situation, normally within a city, where structures abut an island of wildland fuels (park or open space). There is a clear line of demarcation between the structures and the wildland fuels along roads and fences. The development density for an occluded condition is usually similar to that found in the interface condition and the occluded area is usually less than 1,000 acres in size; and

In addition to these classifications detailed in the Federal Register, four additional classifications of population density have been included to augment these categories:

- **Rural Condition** – a situation where the scattered small clusters of structures (ranches, farms, resorts, or summer cabins) are exposed to wildland fuels. There may be miles

between these clusters. The condition of the WUI connects these clusters into a relatively homogenous area.

- **High Density Urban Areas** – those areas generally identified by the population density consistent with the location of larger incorporated cities, however, the boundary is not necessarily set by the location of city boundaries: it is set by very high population densities (more than 15-30 structures per acre or more).
- **Infrastructure Area WUI** – those locations where critical and identified infrastructure are located outside of populated regions and may include high tension power line corridors, critical escape or primary access corridors, municipal watersheds, areas immediately adjacent to facilities in the wildland such as radio repeater towers or fire lookouts. These are identified by county or reservation level core teams.
- **Non-WUI Condition** - a situation where the above definitions do not apply because of a lack of structures in an area or the absence of critical infrastructure crossing these unpopulated regions. This classification is not WUI.

In summary, the designation of areas by the Spokane County core team includes:

- High Density Urban Areas: WUI
- Interface Condition: WUI
- Intermix Condition: WUI
- Occluded Condition: WUI
- Rural Condition: WUI
- Infrastructure Areas: WUI
- Non-WUI Condition: Not WUI, but present in Spokane County

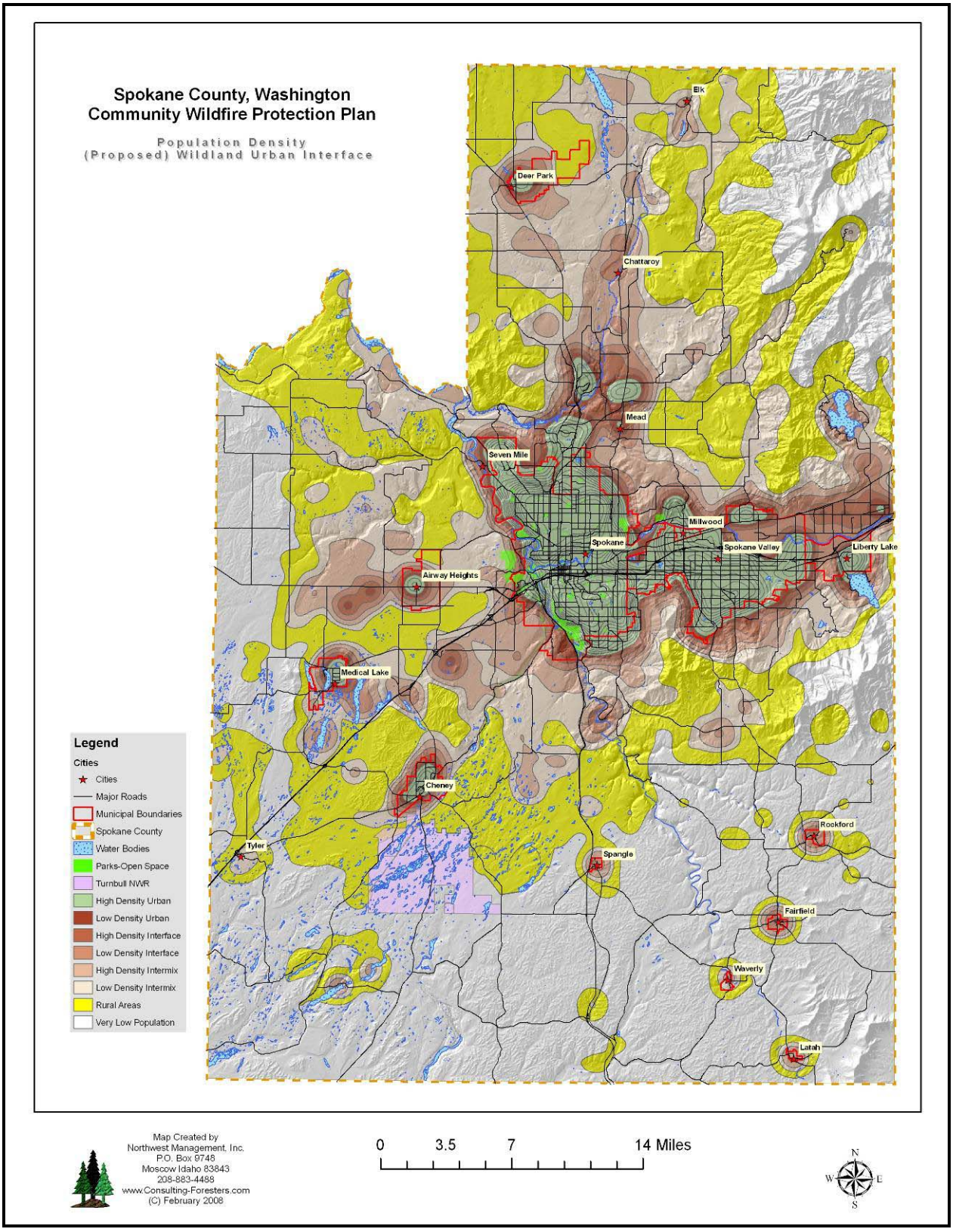
Population density was determined by mapping structure locations and analyzing this information using a Kernel Density population model. Due to the large number of structures in the county, most structure locations were identified via analysis of parcel data provided by Spokane County on a Geographical Information System. To identify structure density, a point location was generated in the center of each parcel identified as having a building in the parcel master listing. Additional structure points were digitized by hand using NAIP aerial imagery where needed. This structure layer was then analyzed with a Kernel Density population model to develop areas of equal population density.

All structures are represented by a “dot” on the map. No differentiation is made between a garage and a home, or a business and a storage building. The density of structures and their specific locations in this management area are critical in defining where the potential exists for casualty loss due to wildfire.

This portion of the analysis allows us to “see” where the highest concentrations of structures are located in reference to high risk landscapes, limiting infrastructure, and other points of concern. The WUI, as defined here, is consistent and allows for edge matching with other counties and most important – it addresses the entire county, not just communities in close proximity to federal land. It is a planning tool showing where homes and businesses are located and the density of those structures leading to identified WUI categories. It can be determined again in the future, using the same criteria, to show how the WUI has changed in response to increasing population densities.

The Healthy Forests Restoration Act makes a clear designation that the location of the WUI is at the determination of the County or Reservation when a formal and adopted Community Wildfire Protection Plan is in place. It further states that the federal agencies are obligated to use this WUI designation for all Healthy Forests Restoration Act purposes. The Spokane County Community Wildfire Protection Plan core team evaluated a variety of different approaches to determining the WUI for the County and selected this approach and has adopted it for these purposes. In addition to a formal WUI map for use with the federal agencies, it is hoped that it will serve as a planning tool for the county and local fire districts.

Figure 4.5. Wildland Urban Interface Map in Spokane County.



4.4.1 Potential WUI Treatments

The definition and mapping of the WUI is the creation of a planning tool to identify where structures, people, and infrastructure are located in reference to each other. This analysis tool does not include a component of fuels risk. There are a number of reasons to map and analyze these two components separately (population density vs. fire risk analysis). The primary among these reasons is the fact that population growth often occurs independent from changes in fire risk, fuel loading, and infrastructure development. Thus, making the definition of the WUI dependant on all of them would eliminate populated places with a perceived low level of fire risk today, which may in a year become an area at high risk due to forest health issues or other concerns.

By examining these two tools separately the planner is able to evaluate these layers of information to see where the combination of population density overlays on top of areas of high current fire risk and then take mitigative actions to reduce the fuels, improve readiness, directly address factors of structure ignitability, improve initial attack success, mitigate resistance to control factors, or (more often) a combination of many approaches.

It should not be assumed that just because an area is identified as WUI, that it will therefore receive treatments because of this identification alone. Nor should it be implicit that all WUI treatments will be the application of the same prescription. Instead, each location targeted for treatments must be evaluated on its own merits: factors of structural ignitability, access, resistance to control, population density, resources and capabilities of firefighting personnel, and other site specific factors.

It should also not be assumed that WUI designation on federal or state lands automatically equates to a treatment area. Public land management agencies are still obligated to manage according to their respective management plans. Their management plans have legal precedence over the WUI designation until such a time that they are revised to reflect updated priorities.

All planning in relation to wildfire mitigation must be taken in light of the existing regulatory and environmental laws in place. This will be determined by the owner of the parcel implementing the treatment. Thus, if proposed activities are to occur on federal lands, then the National Environmental Policy Act (NEPA) will determine environmental protection measures. Similarly, if the proposed action is to occur on state lands or private lands, then the Forest Practices Act and SEPA would govern environmental impacts. We have not diminished private property rights through the development of this document. Environmental protection is inherent to all projects because of the existing regulatory environment in Washington State.

Most treatments may begin with the home evaluation, the implicit factors of structural ignitability (roofing, siding, deck materials), and vegetation within the treatment area of the structure. However, treatments in the low population areas of rural lands (mapped as yellow) may look closely at access (two ways in and out) and communications through means other than land based telephones. On the other hand, the subdivision with densely packed homes (mapped as brown – interface areas) surrounded by forests and dense underbrush, may receive more time and effort implementing fuels treatments beyond the immediate home site to reduce the probability of a crown fire entering the subdivision.

4.5 Spokane County Communities At Risk

Spokane County's fire history is a mixture of events of varying size, severity, and frequency. In the dry ponderosa pine, lodgepole pine, Douglas-fir forests dominant in the lower elevations, on south aspect slopes, and along the Spokane River, fire regimes have changed from frequent,

low-severity fires to less frequent, high severity or stand replacing fires. In the more mesic, mixed conifer forests (Douglas fir, grand fir, ponderosa and lodgepole pine, larch, cedar, hemlock) typical of the higher elevations, on north slopes, and dominating much of the northeastern portion of Spokane County, fires were historically less frequent, but much larger. Fire severity in these landscapes was varied with infrequent stand replacing fires.

Population growth rates have been steadily increasing throughout the County and the region. The growing appreciation for seclusion has led to significant development in the most accessible forestland areas, particularly along the river and around several of the lakes. Frequently, this development is in the dry ponderosa/lodgepole pine – Douglas-fir forest types where grass, needle, and brush surface litter create forest fuel conditions that are at a high propensity for fire occurrence. Human use is strongly correlated with fire frequency, with increasing numbers of fires as use increases. Discarded cigarettes, tire fires, and hot catalytic converters increase the potential for fire starts along roadways. Careless and unsupervised use of fireworks also contributes to unwanted and unexpected wildland fires. Further contributing to ignition sources are the debris burners (burn barrels) and "sport burners" who use fire to rid ditches of weeds and other burnable materials. Farming and logging equipment have also been a source of accidental ignitions. The increased potential for fire starts and the fire prone landscapes in which homes have been constructed greatly increases the potential for fires in interface areas.

Communities in Table 4.4 with "yes" in the right-hand column have been identified in the Federal Register, Vol. 66, Number 160, Friday, August 17, 2001, as "Urban Wildland Interface Communities within the vicinity of Federal Lands that are at high risk from wildfires". All of these communities have been evaluated as part of this plan's assessment.

Table 4.4. Spokane County Federal Register Communities At Risk.

Community Name	Planning Description	Vegetative Community	Federal Register Community At Risk?[1]
Airway Heights	City	Agricultural	No
Chattaroy	Community	Forestland/Rangeland	No
Cheney	City	Agricultural/Rangeland	No
Deer Park	City	Forestland/Agricultural	No
Denison	Community	Forestland/Agricultural	No
Elk	Community	Forestland	No
Fairchild	Community	Agricultural	Yes
Fairfield	Town	Agricultural	No
Latah	Town	Agricultural	No
Liberty Lake	City	Forestland	No
Mead	Community	Agricultural/Rangeland	No
Medical Lake	City	Agricultural/Forestland	No
Mica	Community	Agricultural	No
Millwood	Town	Urban	No
Newman Lake	Community	Forestland	No
Nine Mile Falls	Community	Forestland/Rangeland	No
Opportunity	Community	Urban	No
Rockford	Town	Agricultural/Rangeland	No
Spangle	Town	Agricultural	No
Spokane	City	Urban	No

Table 4.4. Spokane County Federal Register Communities At Risk.

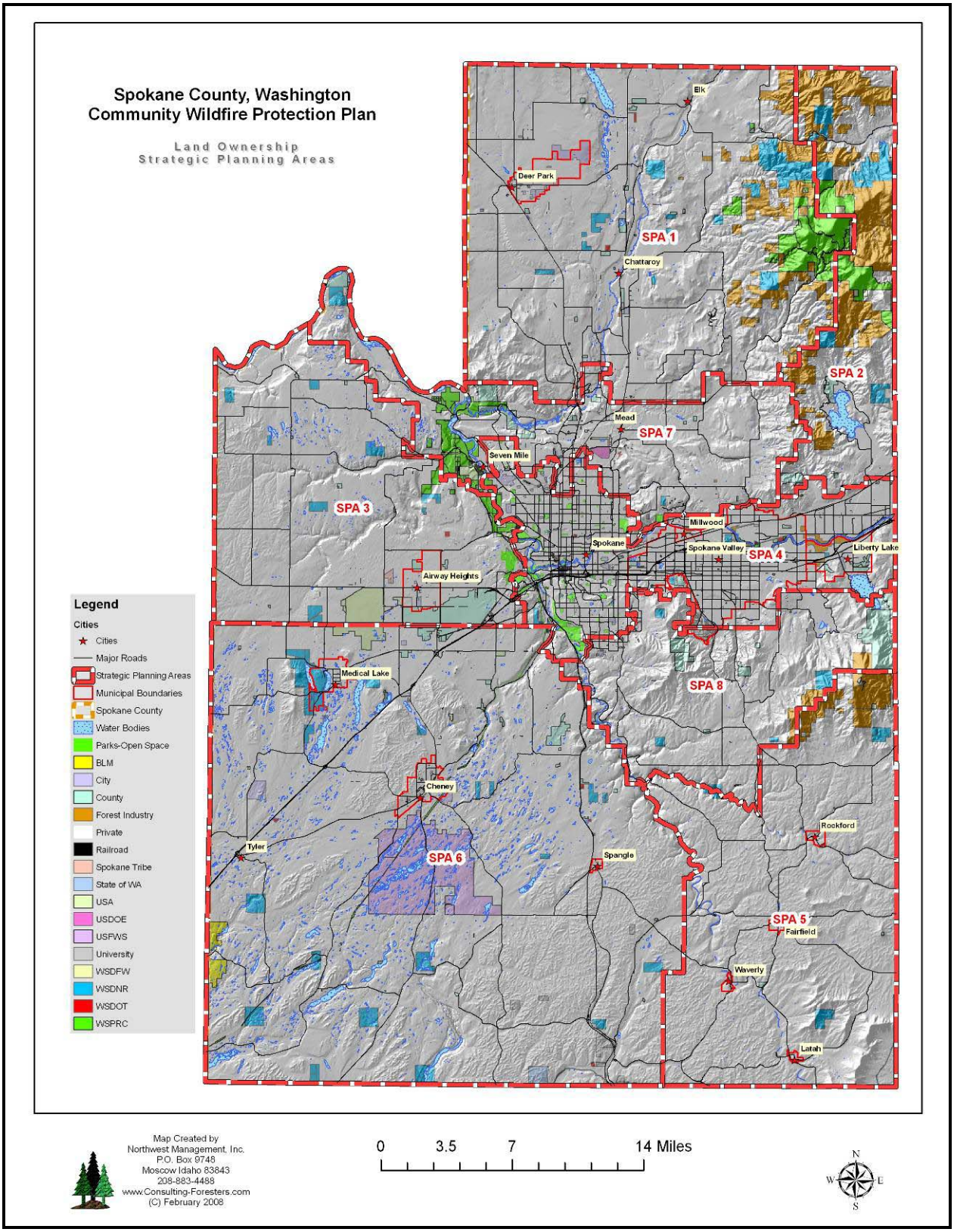
Community Name	Planning Description	Vegetative Community	Federal Register Community At Risk?[1]
Spokane Valley	City	Urban	No
Waverly	Town	Agricultural	No

Because the Wildland Urban Interface map for Spokane County was based primarily on population density as described above, all of these communities and the populated areas surrounding them are within the Spokane County Wildland-Urban Interface.

4.6 Strategic Planning Areas in Spokane County

In order to facilitate the mutual understanding of wildfire risks specific to commonly referred to areas in Spokane County, the planning committee identified sub-regions on a map they felt not only had similar fuel conditions, but also would render similar initial attack techniques. These sub-regions are called strategic planning areas (SPA). Typically, SPA boundaries lie along local fire district boundaries or known anchor points such as roads or ridgelines. All of the strategic planning areas lie within or mostly within the Wildland Urban Interface and will typically include several Communities At Risk. Where the Wildland Urban Interface boundaries are primarily based on population density, the SPA boundaries are strategic boundaries based on fire suppression capabilities.

Figure 4.6. Strategic Planning Areas.



4.6.1 Vegetative Associations

Vegetative structure and composition in Spokane County is closely related to elevation, aspect, and precipitation. Relatively mild and dry environments characterize the undulating topography of the region which transitions from the forestland in the northern region to agricultural in the middle and eastern regions to scablands left over from the Missoula floods in the southwestern region. The higher elevation forest ecosystems in the north and northeast regions typically contain higher fuel accumulations that have the potential to burn at moderate to high intensities. The highly variable topography coupled with limited access is likely to make suppression difficult. The patchy forests occurring along the Spokane River and many of its tributaries as well as in the scabland areas are very different. These forests are much less productive due to the lack of soil. Scattered, lower density stands of the lodgepole and ponderosa pine are found in many of the sheltered drainages or where there are accumulations of loess due to topographic features. Under natural conditions, this type of forestland would burn at frequent intervals keeping brush and other ladder fuels to a minimum.

At higher elevation mountainous regions, moisture becomes less limiting due to a combination of higher precipitation and reduced solar radiation. Vegetative patterns shift from forested communities dominated by ponderosa pine, western larch, grand fir, and Douglas-fir at the lower elevations to lodgepole pine and subalpine fir at the highest elevations. Engelmann spruce and western red cedar are commonly found in moist draws and frost pockets. These forested conditions possess a greater quantity of both dead and down fuels as well as live fuels. Rates of fire spread tend to be lower than those in the grasslands; however, intensities can escalate dramatically, especially under the effect of slope and wind. These conditions can lead to control problems and potentially threaten lives, structures and other valued resources.

As elevation and aspect increase available moisture, forest composition transitions to moister habitat types. Increases in moisture keep forest fuels unavailable to burn for longer periods during the summer. This increases the time between fire events, resulting in varying degrees of fuel accumulation. When these fuels do become available to burn, they typically burn in a mosaic pattern at mid elevations, where accumulations of forest fuels result in either single or group tree torching, and in some instances, short crown fire runs. At the highest elevations, fire events are typically stand replacing as years of accumulation fuel large, intense wildfires.

Insects and disease can cause widespread mortality of forest stands in a very short amount of time. Pine bark beetle populations have continued to increase at epidemic levels throughout Washington State; however, mortality increases are most pronounced in eastern Washington. Ponderosa pine and lodgepole pine seem to be the most affected species at all elevations in Spokane County. The occurrence of Ips beetles, Douglas-fir beetle, Douglas-fir tussock moth, and root disease have also been recorded in eastern Washington (Washington Department of Natural Resources 2006). Insects and disease often focus and cause the most mortality in forest stands that are overcrowded or otherwise stressed by drought, recent fires, or other factors. Large areas of dead trees are a significant fire hazard. Often, dry, dead needles hang on the killed trees for several years making them prime for a potential ignition and subsequent crown fire. Thinning overcrowded stands can help reduce stress on individual trees allowing them to better withstand insect attacks. Planting of appropriate species for the site and continual management can also help ward off future outbreaks.

Many lower elevation forested areas throughout Spokane County are highly valued for their scenic qualities as well as for their proximity to travel corridors and city services. These attributes have led to increased recreational home development and residential home construction in and around forest fuel complexes. The combination of highly flammable forest

types and rapid home development will continue to challenge the ability to manage wildland fires in the wildland-urban interface.

4.6.2 Overall Fuels Assessment

The moderate topography and moisture availability across much of Spokane County permits extensive farming operations, particularly in the southeastern and northwestern corners. Agricultural fields infrequently serve to fuel a fire after curing; burning in much the same manner as consistent low grassy fuels. Fires in grass and rangeland fuel types tend to burn at relatively low intensities, with moderate flame lengths and only short-range spotting. Suppression resources are generally quite effective in such fuels. Homes and other improvements can be easily protected from the direct flame contact and radiant heat through adoption of precautionary measures around the structure. Although fires in these fuels may not present the same control problems as those associated with large, high intensity fires in timber fuel types, they can cause significant damage if precautionary measures have not taken place prior to a fire event. Wind driven fires in these short grass fuel types spread rapidly and can be difficult to control. During extreme drought and pushed by high winds, fires in grassland fuel types can exhibit extreme rates of spread, thwarting suppression efforts.

Much of northeast Washington is a patch-work of dry Douglas-fir and ponderosa pine forests that, in many areas, have become overstocked, resulting in multistoried conditions with abundant ladder fuels. During pre-settlement times, much of this area was characterized by low intensity fires due to the relatively light fuel loading, which mostly consisted of small diameter fuels. Frequent, low intensity fires generally kept stands open; free of fire intolerant species and maintained seral species such as ponderosa pine as well as larger diameter fire resistant Douglas-fir. In some areas, low intensity fires stimulated shrubs and grasses, maintaining vigorous browse and forage. The shrub layer could either inhibit or contribute to potential fire behavior, depending on weather and live fuel moisture conditions at the time of the burn.

Increased activities by pathogens will continue to increase levels of dead and down fuel, as host trees succumb to insect attack and stand level mortality increases. Overstocked, multi-layered stands and the abundance of ladder fuels lead to horizontal and vertical fuel continuity. These conditions, combined with an arid and often windy environment, can encourage the development of a stand replacing fire. These fires can burn with very high intensities and generate large flame lengths and fire brands that can be lofted long distances. Such fires present significant control problems for suppression resources, often developing into large, destructive wildland fires.

A probability that needs to be planned for is the likelihood of extended spot fires. Large fires may easily produce spot fires from ½ to 2 miles away from the main fire. How fire suppression forces respond to spot fires is largely dependent upon the fuels in which they ignite. Stands of timber that are managed for fire resilience are much less likely to sustain torching and crowning behavior that produces more spot fires. The objective of fuel reduction thinning is to change the fuels in a way that will moderate potential fire behavior. If fire intensity can be moderated by vegetation treatments, then ground and air firefighting resources can be much more effective.

4.6.3 Overall Mitigation Activities

There are many specific actions that will help improve the safety in a particular area; however, there are also many potential mitigation activities that apply to all residents and all fuel types. General mitigation activities that apply to all of Spokane County are discussed below while area specific mitigation activities are discussed within the individual community assessments.

The safest, easiest, and most economical way to mitigate unwanted fires is to stop them before they start. Generally, prevention actions attempt to avoid human-caused fires. Campaigns designed to reduce the number and sources of ignitions can be quite effective. Prevention campaigns can take many forms. Traditional "Smokey Bear" type campaigns that spread the message passively through signage can be quite effective. Signs that remind folks of the dangers of careless use of fireworks, burning when windy, and leaving unattended campfires can be quite effective. It's impossible to say just how effective such efforts actually are, however the low costs associated with posting of a few signs is inconsequential compared to the potential cost of fighting a fire.

Slightly more active prevention techniques may involve mass media, such as radio or the local newspaper. Fire districts in other counties have contributed to the reduction in human-caused ignitions by running a weekly "run blotter," similar to a police blotter, each week in the paper. The blotter briefly describes the runs of the week and is followed by a "tip of the week" to reduce the threat from wildland and structure fires. The federal government has been a champion of prevention, and could provide ideas for such tips. When fire conditions become high, brief public service messages could warn of the hazards of misuse of fire or any other incendiary device. Such a campaign would require coordination and cooperation with local media outlets. However, a campaign is likely to be worth the efforts, costs, and risks associated with fighting unwanted fires.

Fire Reporting: The success of the Enhanced – 911 (E-911) emergency reporting system can be measured by the frequency that fire calls route to the county emergency centers. Some wildland firefighting agencies maintain direct Forest Fire Reporting numbers, but the bulk of fire reports go to the Communication Centers.

When a fire call comes into Spokane County E-911 Communication Center, the local fire protection districts are paged out to respond. Then the Communication Center staff calls the appropriate wildland agency (usually WA DNR) and relays the fire report info along with the reporting party's phone number.

Fire Reporting Numbers:

- Spokane County - 911
- WA DNR 1-800-562-6010

Burn Permits: Washington State Department of Natural Resources is the prime agency issuing burn permits in forested areas of Spokane County. Washington DNR burn permits regulate silvicultural burning.

The Spokane Regional Clean Air Agency (SRCAA) is the primary agency issuing burn permits for improved property and agricultural lands. All SRCAA burn permits are subject to fire restrictions in place with Washington DNR and local fire protection districts. The SRCAA allows yard and garden burning two weekends in the spring outside of the "No Burn" policy within incorporated cities and urban growth areas.

Washington DNR has a general burning period referred to as "Rule Burn" wherein a written burn permit is not required in low to some moderate fire dangers.

The timeframes for the Rule Burn are from October 16th to June 30th. Washington DNR allows for Rule Burns to be four foot (4') piles of forest, yard, and garden debris. Individuals that wish to burn are required to call 1-800-323-BURN daily prior to ignition to determine if burning is allowed.

Defensible Space: Effective mitigation strategies begin with public awareness campaigns designed to educate homeowners of the risks associated with living in a flammable

environment. Residents of Spokane County must be made aware that home defensibility starts with the homeowner. Once a fire has started and is moving toward a structure or other valued resource, the probability of that structure surviving is largely dependent on the structural and landscaping characteristics of the home. “Living with Fire, A Guide for the Homeowner” is an excellent tool for educating homeowners as to the steps to take in order to create an effective defensible space. Residents of Spokane County should be encouraged to work with local fire departments and fire management agencies within the county to complete individual home site evaluations. Home defensibility steps should be enacted based on the results of these evaluations. Beyond the homes, forest management efforts must be considered to slow the approach of a fire that threatens a community.

Evacuation Plans: Development of community evacuation plans is necessary to assure an orderly evacuation in the event of a threatening wildland fire. Designation and posting of escape routes would reduce chaos and escape times for fleeing residents. Community safety zones should also be established in the event of compromised evacuations. Efforts should be made to educate homeowners through existing homeowners associations or creation of such organizations to act as conduits for this information.

Accessibility: Also of vital importance is the accessibility of the homes to emergency apparatus. If a home cannot be protected safely, firefighting resources will not jeopardize lives to protect a structure. Thus, the fate of the home will largely be determined by homeowner actions prior to the event. In many cases, homes’ survivability can be greatly enhanced by following a few simple guidelines to increase accessibility such as widening or pruning driveways and creating a turnaround area for large vehicles.

Fuels Reduction: Recreational facilities should be kept clean and maintained. In order to mitigate the risk of an escaped campfire, escape proof fire rings and barbeque pits should be installed and maintained. Surface fuel accumulations in nearby forests can also be kept to a minimum by periodically conducting pre-commercial thinning, pruning and limbing, and possibly controlled burns.

Other actions that would reduce the fire hazard would be thinning and pruning timbered areas, creating a fire resistant buffer along roads and power line corridors, and strictly enforcing fire-use regulations. The high tension power lines crisscrossing the county are primary electrical power supplies to much of the state and region; thus, protecting this corridor should be a high priority. Ensuring that the area beneath the line has been cleared of potential high risk fuels and making sure that the buffer between the surrounding forest lands is wide enough to adequately protect the poles as well as the lines is imperative.

Emergency Response: Once a fire has started, how much and how large it burns is often dependent on the availability of suppression resources. In most cases, fire protection districts are the first to respond and have the best opportunity to halt the spread of a wildland fire. For many districts, the ability to reach these suppression objectives is largely dependent on the availability of functional resources and trained individuals. Increasing the capacity of departments through funding and equipment acquisition can improve response times and subsequently reduce the potential for resource loss.

Rural Addressing: In order to assure a quick and efficient response to an event, emergency responders need to know specifically where emergency services are needed. Continued improvement and updating of the rural addressing system and signage is necessary to maximize the effectiveness of a response.

Other Activities: Other specific mitigation activities are likely to include improvement of emergency water supplies and management of trees and vegetation along roads and power line

right-of-ways. Furthermore, building codes should be revised to provide for more fire conscious construction techniques such as using fire resistant siding, roofing, and decking or implementing road standards in rural areas.

4.6.4 Individual SPA Risk Assessments

4.6.4.1 SPA 1: Fire District #4

SPA 1 is located in the northern part of Spokane County coinciding with Fire District 4 and includes the communities of Deer Park, Chattaroy, and Elk. This area has a diverse mix of land uses which includes farming, ranching, forestry, and recreation. The eastern side of the planning unit is large expanses of forest land that includes Mount Spokane State Park as well as commercial forestland owned by forest industry, private individuals, and the Washington Department of Natural Resources. The central and western portion of the planning area is prairie land gently carved by the Little Spokane River and several of its tributaries creating a mosaic of wooded riparian areas, farmland, rangeland, woodlots, and open space. This area's close proximity to the Spokane Metropolitan area in addition to good road access and favorable terrain, make it a popular area for rural home site development. Housing development is heaviest on the south end of the SPA near Mead as well as surrounding the communities of Deer Park and Chattaroy and along the Highway 2 & 395 corridors. Outside of these areas, development is widely scattered and very rural consisting mostly of individual home sites and small subdivisions surrounded by wildland fuels in secluded areas; many with one way in, one way out access.

4.6.4.1.1 Fire Potential

Fire potential in SPA 1 is moderate to high in the wooded areas and moderate to low in the farmland and semi urban areas. Wildland fuels in forested areas consist of several conifer species mixed with a variety of understory shrubs and grasses. Development is on the rise in both the forested and non-forested areas changing the continuity and condition of the vegetation. Vegetation management, land use, and landscaping differ on a parcel by parcel basis creating conditions that can both hinder and enhance a fire's rate of spread and ultimately the fire hazard potential in an area. As development continues to increase in areas with high concentrations of wildland fuels, the probability of loss by a wildfire increases. Measures taken to reduce fuel continuity and rate of spread can help minimize loss and will give emergency services an opportunity to suppress a potentially devastating wildfire.

Mount Spokane State Park is located on the east side of this planning area. The park provides winter recreation as well as seasonal camping, hiking, and biking. Camping, picnicking, hiking, and day use facilities are developed throughout the park area adjoining wildland fuels. Due to the close proximity of the park to the Spokane metropolitan area and its heavy use, there is increasing potential for wildfires in this area.

Agricultural, range, and riparian land adjacent to forestlands are a wildfire concern. Depending on the time of year, slope, and weather, fuels such as grasses, brush, and agricultural crops can easily ignite. If these fuels are adjacent to forested areas, a surface fire may move into the forest canopy creating a wildfire situation during times when forest fire risk is normally low. A wind-driven fire in agricultural fuels or dry native fuel complexes would produce a rapidly advancing, but variable intensity fire. Fires burning in some types of un-harvested fields would be expected to burn more intensely with larger flame lengths due to the greater availability of fuels. CRP fields burn very intensely due to an increased amount of fuel build up from previous year's dead growth. Larger flame lengths and intense heat make fires in these types of fields

difficult to control. Under extreme weather conditions, particularly strong winds, there is a high potential for a rapidly advancing fire. Subdivisions or home sites in the path of a rapidly advancing range fire can suffer damage from radiant heat and embers. Add to this dense landscaping or heavy accumulations of litter and the potential for a destructive structural fire dramatically increases.

4.6.4.1.2 Ingress-Egress

Highway 2 and 395 are the primary ingress and egress routes traveling north and south through SPA 1. Deer Park-Milan Rd, Eloika Lake Road and Elk to Highway Road provide east-west access between Highways 2 and 395, Deer Park, and Elk. Highway 206 (Mt Spokane Park Drive) is the primary access into Mount Spokane State Park and the surrounding timberlands. Ingress and egress into subdivisions near Deer Park and Chattaroy are typically well-developed due to urban planning and building codes. This minimizes hazards associated with emergency access in the residential areas and provides multiple emergency escape routes. However, many rural areas are accessed via unimproved, narrow roads accessible only by small emergency vehicles. In these areas, roads and driveways are often lined with shrubs and mature trees that can limit or prohibit access during a wildfire. Many of these roads lack adequate turnout and turn-around areas for emergency vehicles. The inability of emergency response resources to safely access structures reduces or may even eliminate suppression capability. Roads in newer subdivisions have been designed to accommodate emergency vehicles with either loop roads or cul-de-sacs with wide turning radii and easily negotiable grades for large emergency equipment.

4.6.4.1.3 Infrastructure

Residents within the community of Deer Park have a municipal water system. Public fire hydrants are available to a limited extent throughout the community and within newer subdivisions. Outside this area, development typically relies on personal or multiple home well systems. Creeks, ponds, and stock tanks provide additional water sources for emergency fire suppression in the rural areas.

Spokane County has a 911 Emergency Communication System in place to link citizens with emergency response agencies. The system receives telephone requests for fire, medical or police services and directs those calls via telephone transfers and/or sophisticated computer systems to the appropriate agencies for dispatch. Referenced in this system is rural addressing that identifies home locations by address. Rural address numbers are displayed at the entrance of many home sites along access routes to assist in emergency response.

Remote forested areas within the planning area, in general, have logging road access enabling ingress for fire suppression equipment as well.

Above ground, high voltage transmission lines cross SPA 1 from north to south in cleared corridors that would not likely be affected by a wildfire. Local public electrical utility lines travel along roads and highways and are exposed to damage from falling trees in the forested areas. Power and phone service throughout the planning area are both above and below ground. Power and communications may be cut to some of these areas during a wildfire situation.

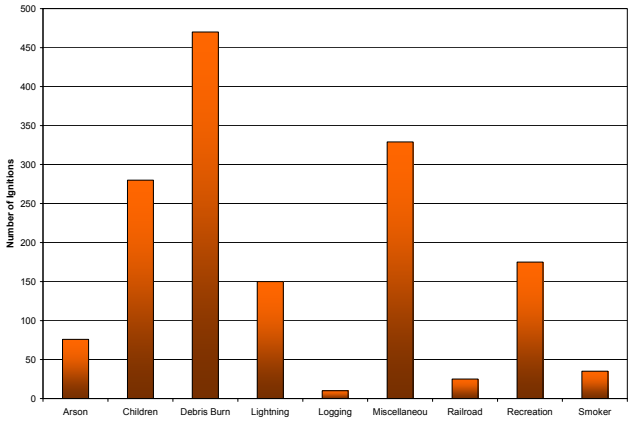
4.6.4.1.4 Fire Protection

Fire Protection in SPA 1 is primarily under the joint jurisdiction of Fire District 4 and the Washington DNR. Fire District 4 has nine fire stations in the district to provide the first level of emergency response. Emergency response is coordinated by the county emergency dispatch system. All fire districts in Spokane County participate in the Spokane County Fire Mutual Aid

System. This is an agreement that allows for support, additional resources, and specialized teams if they are needed from other districts or agencies. Mutual Aid agreements allow other municipalities and agencies to utilize nearby assets when needed, providing timely fire and rescue response to all areas of the county based on available resources. Fires that occur on forestland are often handled by joint jurisdictional response with the Washington Department of Natural Resources Forestland Fire Response Agreement.

4.6.4.1.5 Fire Ignition

According to data provided by the Washington Department of Natural Resources for the period of 1970 through 2007, man is the primary source of wildfire ignition in SPA 1. Lightning accounted for only 9.6% of all the fire ignitions. Man caused fire ignitions include debris burning, children, smoking, campfires, fireworks, electrical fence, railroad sparks, arson and equipment.



4.6.4.1.6 Risk Assessment

Residents within SPA 1 have risk of experiencing a wildland fire depending on location and proximity to vegetation cover. Residence within the forest and woodland areas are at the highest risk and residences in the semi-urban and rural farmland are at a lower risk. As more forested land is developed for home sites, increasing pressure will be placed on fire services for protection. Vegetation, slope, and wind direction can be a factor in determining whether a non-threatening ground fire spreads to the forest canopy and becomes a dangerous crown fire. In forested areas, clearings and fuel breaks will disrupt a slow moving wildfire enabling successful suppression. Under a fast moving wildfire situation, escape and containment is the priority.

Agriculture and ranching activities are a common ignition source increasing the risk of a man-caused wildfire spreading to the forested areas. Large expanses of CRP or annual crops provide areas of continuous fuels that have potential to threaten homes and farmsteads. Under extreme weather conditions, escaped agricultural or open range fires can threaten individual homes or a town site; however, this type of fire is usually quickly controlled. High winds increase the rate of fire spread and intensity of rangeland fires. It is imperative that homeowners implement fire mitigation measures to protect their structures and families prior to a wildfire event.

4.6.4.1.7 Mitigation Activities

Mitigation measures needed in forested areas include constructing a defensible space around structures and along access routes, pruning and thinning trees, mowing and removing weeds and other vegetation and moving flammable items such as propane tanks and wood piles to a safe distance. Maintaining a clean and green yard around home sites is also an effective fire mitigation measure. Additionally, using fire resistant siding, decking, and roofing will help reduce the ignitability of the structure. Many home sites in the wooded rural areas of this SPA have adequate defensible space, but this situation is spotty or non-continuous due to either a lack of education, homeowner's desire for seclusion, or lack of funding to accomplish mitigation treatments. Without education and wide spread mitigation treatments, significant loss of life and property during a wildfire event is likely.

Many access routes in this SPA are restricted and/or are located in areas of moderate to high fire risk due to the close proximity of continuous fuels along the roadway. In the event of a wildland fire, it is likely that one or more of the escape routes would become impassable. Signing of unrestricted alternate escape routes would reduce confusion and save time in a wildfire situation. Many roads and driveways accessing rural residential areas do not have adequate road widths or turnouts for firefighting equipment, particularly in older developments. Current fire codes now require compliance with minimum road standards for new construction.

Designing a plan to help firefighters control fires in CRP and on agricultural land that lies adjacent to forest and riparian areas would significantly lessen a fire's potential of escaping. Mitigation associated with this type of fire might include plowing a fire resistant buffer zone around fields and along pre-designed areas to tie into existing natural or manmade barriers or implementing a prescribed burning regime during less risky seasons of the year.

Roads can be made more fire resistant by frequently mowing along the edges to reduce the fuels or planting more fire resistant grasses in these highly prone areas. Aggressive initial attack on fires occurring along travel routes will help insure that these ignitions do not spread to nearby home sites.

Maintaining developed drafting sites and mapping alternative water resources such as ponds and stock tanks near developed areas will increase the effectiveness and efficiency of emergency response in a wildfire situation.

4.6.4.2 SPA 2: Newman Lake – Blanchard Valley

SPA 2 is located on the northeast side of Spokane County and includes all of Fire District 13 and the community of Newman Lake as well as surrounding unincorporated areas which includes industrial and non-industrial forest and part of Mount Spokane State Park. This planning area is predominantly forest and recreational land with areas of semi-urban and agricultural land on the south end. Major river drainages in the planning area include Blanchard Creek to the north and Newman and Thompson Creeks to the south. Newman and Thompson Creeks converge to form Newman Lake. Landownership is distributed between forest industry, private, and State land administered by the Washington Department of Natural Resources and Washington State Parks and Recreation. Land development for rural home sites and cabins is common around Newman Lake, the Thompson Creek Drainage, and in the Blanchard Creek area. Much of this development is in remote areas adjacent or in close proximity to wildland fuels on widely varying terrain. Many of these homes are accessed by timbered forest routes; some with one-way in, one-way out roads.

4.6.4.2.1 Fire Potential

Wildfire potential in SPA 2 is low to moderate in the rural farmland and moderate to high in the forested and wooded riparian areas. Wildland fuels in forested areas consist of several conifer species mixed with a variety of understory shrubs and grasses. Timber management has created a mosaic of timber stands with widely varying age and size classes enhancing stand density and structure, which often increases ladder fuels and; therefore, the wildland fire potential. Forested areas to the south and along Blanchard Creek are generally adjacent to agricultural crops or rangeland.

Agricultural and riparian lands lying next to forested land are a wildfire concern. Depending on the time of year, slope, and weather, fuels such as grasses, brush and agricultural crops can easily ignite. If these types of fuels are adjacent to forested areas, a surface fire may move into the forest canopy creating a wildfire situation during times when forest fire risk is normally low. A wind-driven fire in agricultural fuels or dry native fuel complexes would produce a rapidly advancing, but variable intensity fire. Fires burning in some types of un-harvested fields would be expected to burn more intensely with larger flame lengths due to the greater availability of fuels. CRP fields burn very intensely due to an increased amount of fuel build up from previous year's dead growth. Larger flame lengths and intense heat make fires in these fields difficult to control. Under extreme weather conditions, particularly strong winds, there is a high potential for a rapidly advancing fire.

4.6.4.2.2 Ingress-Egress

Starr Road, West Newman Lake Drive, and Thompson Creek Road are the primary ingress and egress routes traveling north and south through the south end of SPA 2. Highway 206 (Mt Spokane Park Drive) is the primary access into Mount Spokane State Park and surrounding timberlands. Blanchard Road, traveling east and west through the northern part of the this planning area, is a major access route between home sites along Blanchard Creek and the Highway 2 corridor north of Spokane. Many residences in the forested areas are accessed via unimproved, steep, narrow roads accessible by only small emergency vehicles. In these areas, access roads and driveways are often lined with shrubs and mature trees that can limit or prohibit access during a wildfire. Many of these roads lack adequate turnout and turn-around areas for emergency vehicles. The inability of emergency resources to safely access structures reduces or may even eliminate suppression response. Roads in newer subdivisions have been designed to accommodate emergency vehicles with either loop roads or cul-de-sacs with wide turning radii and easily negotiable grades for large emergency equipment.

4.6.4.2.3 Infrastructure

Residents within the community of Newman Lake have a municipal water system. Public fire hydrants are available to a limited extent throughout the community up to West Newman Lake Drive. Outside of this area, development typically relies on personal or multiple home well systems. Creeks, ponds, and stock tanks provide additional water sources for emergency fire suppression in the rural areas.

Spokane County has a 911 Emergency Communication System in place to link citizens with emergency response agencies. The system receives telephone requests for fire, medical, or police services and directs those calls via telephone transfers and/or sophisticated computer systems to the appropriate agencies for dispatch. Referenced in this arrangement is a rural addressing system that identifies home locations by address. Rural address numbers are

displayed at the entrance to many home sites along access routes to assist in emergency response, but addressing is inconsistent or missing for many cabins surrounding Newman Lake.

Remote forested areas within the planning area in general have logging road access enabling access for fire suppression equipment as well.

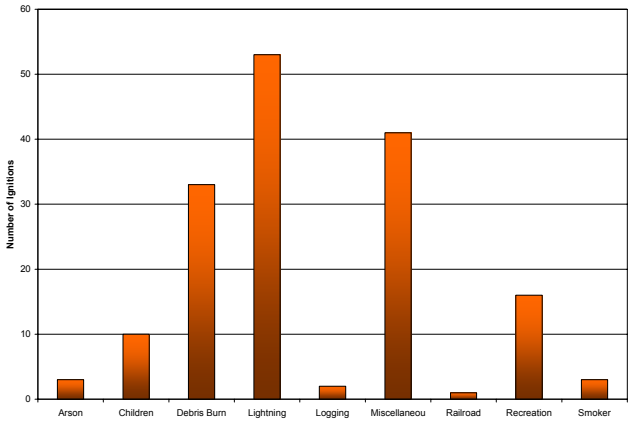
Above ground, high voltage transmission lines cross the southern end of the planning area from east to west in cleared corridors that would not be affected by a wildfire. Local public electrical utility lines travel along roads and highways and are exposed to damage from falling trees in the forested areas. Power and phone service throughout the planning area are both above and below ground. Power and communications may be cut to some of these areas during a wildland fire.

4.6.4.2.4 Fire Protection

Fire District 13 covers much of the southern end of SPA 2; however, the central and northern portions are not incorporated into any organized fire protection organization. Fire District 13 has two fire stations in the district; one in the Newman Lake community, and one on the north end of Newman Lake. These stations provide the first level of emergency response within the district. Emergency response is coordinated by the county emergency dispatch system. All fire districts in Spokane County participate in the Spokane County Fire Mutual Aid System. This is an agreement that allows for support, additional resources, and specialized teams if they are needed from other districts or agencies. Mutual Aid agreements allow other municipalities and agencies to utilize nearby assets when needed, providing timely fire and rescue response to all areas of the county based on available resources. Fires that occur on forestland are often handled by joint jurisdictional response with the Washington Department of Natural Resources under mutual aid agreement.

4.6.4.2.5 Fire Ignition

According to data provided by the Washington Department of Natural Resources for the period of 1970 through 2007, man is the primary source of wildfire ignition in SPA 2. Lightning accounted for only 33.3% of all the fire ignitions. Man caused fire ignitions include debris burning, smoking, campfires, fireworks, electrical fence, railroad sparks, arson and equipment.



4.6.4.2.6 Risk Assessment

Residents within SPA 2 have risk of experiencing a wildland fire depending on location and proximity to vegetation cover. Residences within the forest and woodland areas are at the highest risk and residences in the rural farmland are at a lower risk. As more forested land is developed for home sites, increasing pressure will be placed on fire services for protection. Vegetation, slope, and wind direction can be a factor in determining whether a non-threatening surface fire spreads to the forest land and becomes a dangerous crown fire. In forested areas, clearings and fuel breaks will disrupt a slow moving wildfire enabling successful suppression. Under a fast moving wildfire situation, escape and containment is the priority.

Agriculture and ranching activities are a common ignition source increasing the risk of a man-caused wildfire. Large expanses of CRP or annual crops provide areas of continuous fuels that have potential to threaten homes and farmsteads during a wildfire event. Under extreme weather conditions, escaped agricultural or open range fires can threaten individual homes or a town site; however, this type of fire is usually quickly controlled. High winds increase the rate of fire spread and intensity of rangeland fires. It is imperative that homeowners implement fire mitigation measures to protect their structures and families prior to a wildfire event. Most homeowners can maintain an adequate defensible space around structures by watering their yards, clearing brush, or mowing grass and weeds.

4.6.4.2.7 Mitigation Activities

Mitigation measures needed in forested areas include constructing a defensible space around structures and along access routes, pruning and thinning trees, mowing and removing weeds and other vegetation, and moving flammable items such as propane tanks and wood piles a safe distance away. Maintaining a clean and green yard around home sites is also an effective fire mitigation measure. Additionally, using fire resistant siding, decking, and roofing will help reduce the ignitability of the structure. Many home sites in the wooded rural areas of this SPA have adequate defensible space, but this situation is spotty or non-continuous due to either a lack of education, home owner's desire for seclusion, or lack of funding to accomplish mitigation treatments. Without education and widespread mitigation treatments, significant loss of life and property due to wildfire is likely.

Many access routes in this SPA, especially those surrounding the Newman Lake waterfront properties, have restricted access and are located in areas of moderate to high fire risk due to the close proximity of continuous fuels. In the event of a wildland fire, it is likely that one or more of the escape routes would become impassable. Signing of unrestricted alternate escape routes would reduce confusion and save time in a wildfire situation. Many roads and driveways accessing rural residential areas do not have adequate road widths or turnouts for firefighting equipment, particularly in older developments. Current fire codes now require compliance with minimum road standards for new construction.

Designing a plan to help firefighters control fires in CRP and on agricultural lands that lie adjacent to forest and riparian areas would significantly lessen a fire's potential of escaping to the forest canopy. Mitigation associated with this type of fire might include plowing a fire resistant buffer zone around fields and along pre-designed areas to tie into existing natural or manmade barriers or implementing a prescribed burning regime during less risky seasons of the year.

Roads can be made more fire resistant by frequently mowing along the edges to reduce the fuels or planting more fire resistant grasses in these highly prone areas. Aggressive initial

attack on fires occurring along travel routes will help insure that these ignitions do not spread to nearby home sites.

Maintaining developed drafting sites and mapping alternative water resources such as ponds and stock tanks near developed areas will increase the effectiveness and efficiency of emergency response in a wildfire situation.

4.6.4.3 SPA 3: Airway Heights – Four Mound Prairie

SPA 3 is located in the northwest corner of Spokane County and includes all of Fire Districts 5 and 10 as well as the community centers of Airway Heights and Fairchild Air Force Base. This area is characterized by the gently rolling agricultural land of the Indian and Four Mound Prairies dissected by the shallow, but often steeply sloped Coulee and Deep Creek drainages. Landownership is primarily private with scattered parcels of Washington State land. The Washington State Parks and Recreation Commission administers much of the land along the eastern boundary of the SPA, which roughly follows the Spokane River and includes Riverside State Park. Spokane County owns a large piece of land south of Airway Heights and the United States owns the Fairchild Air Force Base and much of the surrounding area.

The southern end of the SPA is heavily populated, particularly along the U.S. Highway 2 corridor; however, the rest of SPA 3 is populated by scattered homes and farming operations. Many of the forested areas in the draws and canyonlands have been subdivided into fairly large 5 to 20 acre parcels. These homes are typically surrounded by wildland fuels with one-way in, one-way out driveways.

4.6.4.3.1 Fire Potential

Wildfire potential in SPA 3 is low to moderate in the farmland and moderate to high in the forested areas. Wildland fuels in forested areas consist primarily of a ponderosa pine overstory with Douglas fir and ponderosa pine regeneration in many understory openings. In most areas, shrubs and other vegetation in the understory is negligible due to canopy closure. Many stands are overcrowded in addition to having severe ice storm damage causing a buildup of dead material on the forest floor as well as ladder fuels. Timber management by some landowners has created a mosaic of stand types with widely varying age and size classes enhancing stand density and structure. Forested areas are generally limited to the Coulee Creek and Deep Creek drainages and along the Spokane River. Scattered timber also occurs in the area surrounding Horseshoe, Woods, and Davis Lakes in the northwest corner of the SPA.

Agricultural and riparian lands lying next to forested land can also become a wildfire concern. Depending on the time of year, slope, and weather, fuels such as grasses, brush and agricultural crops can easily ignite. If these types of fuels are adjacent to forested areas, a surface fire may move into the forest canopy creating a wildfire situation during times when forest fire risk is normally low. A wind-driven fire in agricultural fuels or dry native fuel complexes would produce a rapidly advancing, but variable intensity fire. Fires burning in some types of un-harvested fields would be expected to burn more intensely with larger flame lengths due to the greater availability of fuels. CRP fields burn very intensely due to an increased amount of fuel build up from previous year's dead growth. Larger flame lengths and intense heat make fires in these fields difficult to control. Under extreme weather conditions, particularly strong winds, there is a high potential for a rapidly advancing fire.

4.6.4.3.2 Ingress-Egress

U.S. Highway 2 is the primary access route in SPA 3 and connects Airway Heights and Fairchild Air Force Base to the other nearby population centers of Spokane to the east and Reardan and Davenport to the west. This route is primarily bordered by homes, pasture, and agricultural crops and does not have a high wildland fire risk. There are also several main routes accessing the northern end of the SPA at a rate of approximately one northbound route per square mile splitting off of Highway 2. Coulee Hite Road and Garfield Road are the main access routes into the Coulee Creek and Deep Creek drainages. Numerous graveled secondary routes split from these two main access roads. SPA 3 can also be accessed from the north via Charles Road or Four Mound Road as well as several less traveled gravel roads.

Many residences in both the forested and agricultural areas are accessed via unimproved, narrow roads accessible by only small emergency vehicles. In these areas, access roads and driveways are often lined with mature trees that can limit or prohibit access during a wildfire. Many of these roads lack adequate turnout and turn-around areas for emergency vehicles. The inability of emergency resources to safely access structures reduces or may even eliminate suppression response. Roads in newer subdivisions have been designed to accommodate emergency vehicles with either connecting loops or cul-de-sacs with wide turning radii, easily negotiable grades for large emergency equipment, and engineered surfaces.

4.6.4.3.3 Infrastructure

Residents within the community of Airway Heights and on Fairchild Air Force Base have a municipal water system. Outside of this area, development typically relies on personal or multiple home well systems. Creeks, ponds, and stock tanks provide additional water sources for emergency fire suppression in the rural areas.

Spokane County has a 911 Emergency Communication System in place to link citizens with emergency response agencies. The system receives telephone requests for fire, medical, or police services and directs those calls via telephone transfers and/or sophisticated computer systems to the appropriate agencies for dispatch. Referenced in this arrangement is a rural addressing system that identifies home locations by address. Rural address numbers are displayed at the entrance to many home sites along access routes to assist in emergency response, but addressing is inconsistent or missing for many homes, particularly in the northern end of the SPA.

Above ground, high voltage transmission lines originating from the Long Lake Dam and Nine Mile Falls Dam cross the central region of the planning area in cleared corridors that would not likely be affected by a wildfire. Local public electrical utility lines travel along roads and highways and are exposed to damage from falling trees in the forested areas. Power and phone service throughout the planning area are both above and below ground. Power and communications may be cut to some of these areas during a wildland fire.

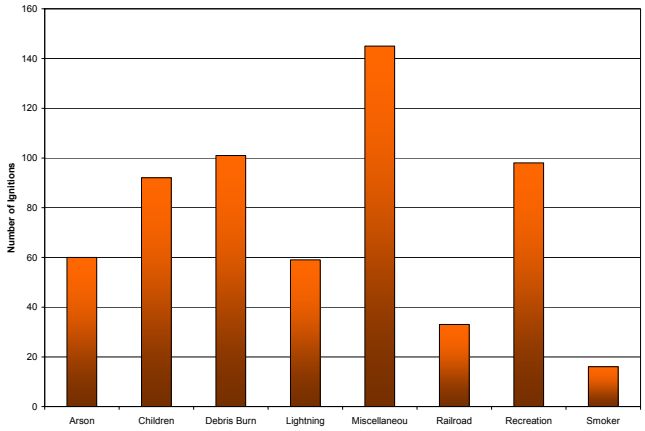
4.6.4.3.4 Fire Protection

Fire Protection in SPA 3 is under the jurisdiction of Fire District 5 and 10. Fire District 5 has two stations located on the north end of the planning area. Fire District 10 has five fire stations. The City of Airway Heights, Spokane International Airport, and Fairchild Air Force Base also maintain their own fire departments with a station at each location. These fires stations provide the first level of emergency response. Emergency response is coordinated by the county emergency dispatch system. All fire districts in Spokane County participate in the Spokane

County Fire Mutual Aid System. This is an agreement that allows for support, additional resources, and specialized teams if they are needed from other districts or agencies. Mutual Aid agreements allow other municipalities and agencies to utilize nearby assets when needed, providing timely fire and rescue response to all areas of the county based on available resources. Fires that occur on forestland are often handled by joint jurisdictional response with the Washington Department of Natural Resources under mutual aid agreement.

4.6.4.3.5 Fire Ignition

According to data provided by the Washington Department of Natural Resources for the period of 1970 through 2007, man is the primary source of wildfire ignition in SPA 3. Lightning accounted for only 9.6% of all the fire ignitions. Man caused fire ignitions include debris burning, children, smoking, campfires, fireworks, electrical fence, railroad sparks, arson and equipment.



4.6.4.3.6 Risk Assessment

Residents within SPA 3 have risk of experiencing a wildland fire depending on location and proximity to vegetation cover. Residences within the forest and woodland areas are at the highest risk and residences in the rural farmland are at a lower risk. As more forested land is developed for home sites, increasing pressure will be placed on fire services for protection. Vegetation, slope, and wind direction can be a factor in determining whether a non-threatening agricultural or surface fire spreads to the forest land and becomes a dangerous crown fire. In forested areas, clearings and fuel breaks will disrupt a slow moving wildfire enabling successful suppression. Under a fast moving wildfire situation, escape and containment is the priority. Many homes in the forested drainages are surrounded by high risk forest fuels and only a few have taken measures to reduce this risk by creating a survivable space. The desire for seclusion, viewsheds, and privacy creates dangerous living conditions in the forest environment often without the landowner's awareness of the potential consequences. Fuels along private driveways also increases homeowner's risk as both access by fire equipment and escape from the area may become difficult during a fire event.

Agriculture and ranching activities are a common ignition source increasing the risk of a man-caused wildfire. Large expanses of CRP or annual crops provide areas of continuous fuels that have potential to threaten homes and farmsteads during a wildfire event. Under extreme weather conditions, escaped agricultural or open range fires can threaten individual homes or a town site; however, this type of fire is usually quickly controlled. High winds increase the rate of fire spread and intensity of rangeland fires. It is imperative that homeowners implement fire

mitigation measures to protect their structures and families prior to a wildfire event. Most homeowners can maintain an adequate defensible space around structures by watering their yards, clearing brush, or mowing grass and weeds.

4.6.4.3.7 Mitigation Activities

Mitigation measures needed in forested areas include constructing a defensible space around structures and along access routes, pruning and thinning trees, mowing and removing weeds and other vegetation, and moving flammable items such as propane tanks and wood piles a safe distance away. Maintaining a clean and green yard around home sites is also an effective fire mitigation measure. Additionally, using fire resistant siding, decking, and roofing will help reduce the ignitability of the structure. Many home sites in the wooded rural areas of this SPA have adequate defensible space, but this situation is spotty or non-continuous due to either a lack of education, homeowner's desire for seclusion, or lack of funding to accomplish mitigation treatments. Without education and widespread mitigation treatments, significant loss of life and property due to wildland fire is likely.

A few of the main roads accessing the forested draws are located in areas of moderate to high fire risk due to the close proximity of continuous fuels. In the event of a wildland fire, it is likely that one or more of the escape routes would become impassable. Signing of unrestricted alternate escape routes would reduce confusion and save time in a wildfire situation. Many roads and driveways accessing rural residential areas do not have adequate road widths or turnouts for firefighting equipment, particularly in older developments. Current fire codes now require compliance with minimum road standards for new construction.

Designing a plan to help firefighters control fires in CRP and on agricultural land that lie adjacent to forest and riparian areas would significantly lessen the fire danger to adjacent development. Mitigation associated with this type of fire might include plowing a fire resistant buffer zone around fields and along pre-designed areas to tie into existing natural or manmade barriers or implementing a prescribed burning regime during less risky seasons of the year.

Roads and rail lines can be made more fire resistant by frequently mowing along the edges to reduce the fuels or planting more fire resistant grasses in these highly prone areas. Aggressive initial attack on fires occurring along travel routes will help insure that these ignitions do not spread to nearby home sites.

Maintaining developed drafting sites and mapping alternative water resources such as underground tanks near the heavily populated areas will increase the effectiveness and efficiency of emergency response in a wildfire situation.

4.6.4.4 SPA 4: Spokane and Spokane Valley

SPA 4 is located in the center of Spokane County and includes the City of Spokane and Spokane Valley Fire Districts as well as the communities of Liberty Lake and Millwood. This is a heavily developed residential and industrial area with significant areas of parkland, forestland, grassland, open space, scattered agricultural fields, and the Interstate 90 corridor. The Spokane River and several of its tributaries pass through the middle of this planning area providing recreation and other open space amenities. Forest vegetation is common in residential areas developed on the foothills surrounding the valley, especially near Hangman Creek to the southwest, Liberty Lake to the east, Dishman-Mica Road, and the South Hills Area. Home site and subdivision development is increasing throughout the area expanding further into the foothills as well as the remaining farmland. Landownership is predominantly private with

several large tracts of park or open space/woodland owned by State, city, or county governments.

4.6.4.4.1 Fire Potential

Wildfire potential is low in the urban areas of the Spokane Valley, but increases in the residential areas adjacent to open space, wooded foothills, and river drainages. Large ponderosa pine and other conifer and deciduous species are common landscape vegetation throughout the wooded foothills and in many of the older residential areas. This creates a semi-continuous canopy cover producing tree litter accumulations in yards and on roof tops. Seclusion and privacy created by landscaping is highly desirable in dense residential housing areas, which limits opportunities for a defensible space. Under extreme wildfire conditions, residential areas have the potential to carry an advancing fire front fueling the fire with landscape vegetation, litter and ultimately the home itself as seen in many of the Southern California fires of 2007. Residential areas in the foothills surrounded by wildland fuels have compounded problems created by radiant heat, embers, and the effect of slope and draft. This characteristic is common in many areas of SPA 4.

4.6.4.4.2 Ingress-Egress

Ingress and egress within the heavily populated urban areas of SPA 4 is well developed through urban planning and building codes. This minimizes hazards associated with emergency access and provides multiple emergency escape routes. However, some residences in the foothills are accessed via unimproved, single-lane roads accessible by only small emergency vehicles. In these areas, access roads and driveways are often lined with shrubs and mature trees that can limit or prohibit access during a wildfire. Many of these roads lack adequate turnout and turn-around areas. The inability of emergency resources to safely access structures reduces or may even eliminate suppression response. Roads in newer subdivisions have been designed to accommodate emergency vehicles with either loop roads or cul-de-sacs with wide turning radii and easily negotiable grades for large emergency equipment.

4.6.4.4.3 Infrastructure

Residents throughout most of SPA 4 have municipal water systems which provide public fire hydrants. New development is required by the International Fire Code to have hydrant placement in their building plan. Areas outside the Urban Growth Areas (UGAs) typically rely on personal, co-op, or multiple home well systems.

Spokane County has a 911 Emergency Communication System in place to link citizens with emergency response agencies. The system receives telephone requests for fire, medical or police services and directs those calls via telephone transfers and/or sophisticated computer systems to the appropriate agencies for dispatch. Referenced in this arrangement is an addressing system that identifies home or business locations. In general, address numbers are clearly displayed on or at the entrance to home sites along access routes to assist in emergency response.

Above ground, high voltage transmission lines cross the planning area in many directions in cleared corridors that would not be significantly affected by a wildfire. Local public electrical utility lines travel through back yards, along roads and highways, and are exposed to damage from falling trees in the forested foothills. Power and phone service throughout the planning area are both above and below ground. Power and communications may be cut to some of these areas during a wildfire situation.

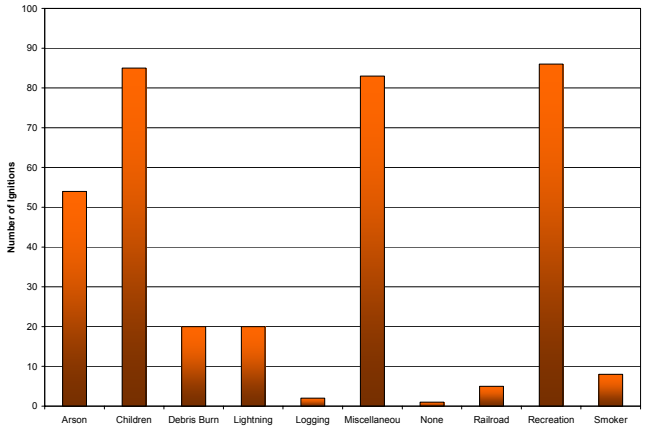
4.6.4.4.4 Fire Protection

Fire Protection in SPA 4 is under the jurisdiction of the City of Spokane Fire Department and Spokane Valley Fire (Fire District 1). There are 28 fire stations and/or fire response facilities in SPA 4. Seventeen are with in the City of Spokane Fire Department's jurisdiction and eleven are in the Spokane Valley Fire District. These stations provide the first level of emergency response within their respective districts. Emergency response is coordinated by the county emergency dispatch system. Spokane County planning has established a policy that: 1) urban areas are served by a fire district with at least a Class 6 insurance rating, 2) fire hydrants are placed according to the Uniform Fire Code, 3) all urban areas must be within five road miles of a station with a Class A pumper, and 4) urban areas shall be served by a basic life support (BLS) agency.

All fire districts in Spokane County participate in the Spokane County Fire Mutual Aid System. This is an agreement that allows for support, additional resources, and specialized teams if they are needed from other districts or agencies. Mutual aid agreements allow other municipalities and agencies to utilize nearby assets when needed, providing timely fire and rescue response to all areas of the county based on available resources. Fires that occur on forestland are often handled by joint jurisdictional response with the Washington Department of Natural Resources under mutual aid agreement.

4.6.4.4.5 Fire Ignition

According to data provided by the Washington Department of Natural Resources for the period of 1970 through 2007, man is the primary source of wildfire ignition in SPA 4. Lightning accounted for only 5.4% of all the fire ignitions. Man caused fire ignitions include debris burning, children, smoking, campfires, fireworks, electrical fence, railroad sparks, arson and equipment.



4.6.4.4.6 Risk Assessment

Residents with in SPA 4 have a moderate to low risk of experiencing a wildland fire in the urban areas, and moderate to high risk in the outlying foothills adjacent to forests and open space. Residential areas with dense landscaping adjacent to wildland fuels are at a higher risk within the urban confines due to the continuity of fuels and litter accumulation. Development is increasing in the forested foothills as people seek to live in seclusion and remain in close proximity to urban amenities. As this trend continues, it will put increased pressure on fire protection services and the need for improved infrastructure and education. Vegetation, slope,

and wind direction can be a factor in determining whether a non-threatening ground fire spreads to the forest canopy and becomes a dangerous crown fire. In forested areas, clearings and fuel breaks will disrupt a slow moving wildfire enabling successful suppression. Under a fast moving wildfire situation, escape and containment is the priority. It is imperative that homeowners implement fire mitigation measures to protect their structures and families prior to a wildfire event.

4.6.4.4.7 Mitigation Activities

Due to the low risk of wildfires in urban areas, mitigation is less of an issue than it is in the wooded foothills. Measures that can be taken in densely landscaped urban residential areas include watering yards, clearing litter accumulations from both the yard and the roof, and mowing grass and weeds. Designing fuel breaks between wildland fuels and residential areas would significantly lessen a fire's potential of igniting landscape vegetation.

Mitigation measures needed in forested areas include construction of a defensible space around structures and along access routes, pruning and thinning trees, mowing and removing weeds and other vegetation and moving flammable items such as propane tanks and wood piles to a safe distance. Maintaining a clean and green yard around home sites is also an effective fire mitigation measure. Additionally, using fire resistant siding, decking, and roofing will help reduce the ignitability of the structure. Many home sites in the wooded rural areas of this SPA have adequate defensible space, but this situation is spotty or non-continuous due to either a lack of education, homeowner's desire for seclusion, or lack of funding to accomplish mitigation treatments. Without education and widespread mitigation treatments, significant loss of life and property is possible.

Many access routes in the wooded foothills are located in areas of moderate to high fire risk due to the close proximity of continuous fuels. In the event of a wildland fire, it is likely that one or more of the escape routes would become impassable. Signing of unrestricted alternate escape routes would reduce confusion and save time during a wildfire. Many roads and driveways accessing rural residential areas do not have adequate road widths or turnouts for firefighting equipment, particularly in older developments. Current fire codes now require compliance with minimum road standards for new construction.

Roads and rail lines can be made more fire resistant by frequently mowing along the edges to reduce the fuels or planting more fire resistant grasses in these highly prone areas. Aggressive initial attack on fires occurring along travel routes will help insure that these ignitions do not spread to nearby residential areas.

Maintaining developed drafting sites and mapping alternative water resources such as ponds and stock tanks in areas that do not have a municipal hydrant system will increase the effectiveness and efficiency of fire suppression in a wildfire situation.

4.6.4.5 SPA 5: Palouse Prairie – Mica Peak

SPA 5 is located in the southeast corner of Spokane County and includes Fire Districts 2, 11 and 12, and the communities of Rockford, Fairfield, Waverly, and Latah. This planning area is predominantly rural farmland interspersed with wooded hill tops and riparian areas. On the northern end of this planning area there is a significant amount of commercial forestland. Major river drainages include Hangman Creek and Rock Creek, which are both tributaries of the Spokane River. Landownership is predominantly private with several large tracts of timberland owned by forest industry or is land administered by the Washington Department of Natural Resources. Land subdividing for home sites is common in the forestlands adjacent to the State

and industrial tracts. This development is occurring in semi-remote areas along timbered forest routes some with one-way in, one-way out roads. Most of the structures lie adjacent to or in close proximity to wildland fuels on widely varying terrain.

Development in the rural farmland is widely distributed. New development occurs primarily near communities or along major roads. Occasionally, farmland is subdivided for new home sites between family members or for development of new farming facilities. In nearly all developed areas, structures are in close proximity to vegetation that at certain times of the year becomes a fire risk. Topography in this planning area is rolling to steep near the mountainous areas to the north and flat to gently rolling throughout the farmland associated with the Palouse Prairie.

4.6.4.5.1 Fire Potential

Wildfire potential in SPA 5 is low to moderate in the rural farmland and moderate to high in the forest and wooded riparian areas. Wildland fuels in forested areas consist of several conifer species mixed with a variety of understory shrubs and grasses. Timber management has created a mosaic of timber stands with widely varying age and size classes enhancing stand density and structure and often increasing ladder fuels and the wildfire potential. Forests in this area are often adjacent to or surrounded by agricultural crops or rangeland.

Agricultural and riparian lands lying next to forested land are a wildfire concern. Depending on the time of year, slope, and weather, fuels such as grasses, brush and agricultural crops can easily ignite. If these fuel types are within close proximity to forested areas, a surface fire may move into the forest creating a wildfire situation during times of the year when forest fire risk is normally low. A wind-driven fire in agricultural fuels or dry native fuel complexes would produce a rapidly advancing, but variable intensity fire. Fires burning in some types of un-harvested fields would be expected to burn more intensely with larger flame lengths due to the greater availability of fuels. CRP fields burn very intensely due to an increased amount of fuel build up from previous years' dead growth. Larger flame lengths and intense heat make fires in these fields difficult to control. Under extreme weather conditions, particularly strong winds, there is a high potential for a rapidly advancing fire.

4.6.4.5.2 Ingress-Egress

Highway 27 is the primary ingress and egress route traveling north-south through SPA 5. Highway 27 is also the main route between the communities of Rockford, Fairfield, and Latah. Primary routes traveling east and west include Highway 278 and the Spangle/Waverly Road. Many residences in the forested area are accessed via unimproved, narrow roads accessible by only small emergency vehicles. Many of these roads lack adequate turnout and turn-around areas for emergency vehicles. The inability of emergency resources to safely access structures reduces or may even eliminate suppression response. Roads in newer subdivisions have been designed to accommodate emergency vehicles with either loop roads or cul-de-sacs with wide turning radii and easily negotiable grades for larger emergency equipment.

4.6.4.5.3 Infrastructure

Residents within the communities of Rockford, Waverly, Fairfield, and Latah have municipal water systems. In these areas, public fire hydrants are available to a limited extent. Outside of these communities, development typically relies on personal or multiple home well systems. Creeks, ponds, and stock tanks provide additional water sources for emergency fire suppression in the rural areas.

Spokane County has a 911 Emergency Communication System in place to link citizens with emergency response agencies. The system receives telephone requests for fire, medical or police services and directs those calls via telephone transfers and/or sophisticated computer systems to the appropriate agencies for dispatch. Referenced in this arrangement is a rural addressing system that identifies home locations by address. Rural address numbers are clearly displayed at the entrance to home sites along access routes to assist in emergency response.

Remote forested areas within the planning area in general have logging road access enabling access for fire suppression equipment.

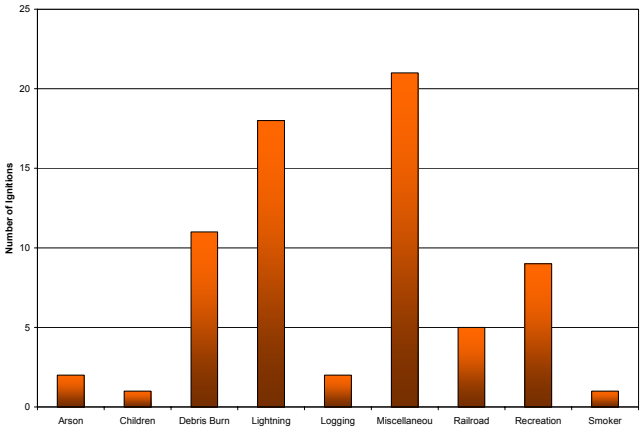
Above ground, high voltage transmission lines cross the planning area from north to south in cleared corridors that would not likely be affected by a wildfire. Local public electrical utility lines travel along roads and highways and are exposed to damage from wind and falling trees in the forested areas. Power and phone services throughout the planning area are both above and below ground. Power and communications may be cut to some of these areas in a wildfire situation.

4.6.4.5.4 Fire Protection

Fire Protection in SPA 5 is primarily under the jurisdiction of Fire District 2, 11 and 12. Fire District 2 has three fire stations; two near Fairfield and one on the north end of the district on Valley Chapel Road. Fire District 11 has one fire station located in Rockford. Fire District 12 has two fire stations; one in Waverly and one in Latah. These stations provide the first level of emergency response within their respective districts. Emergency response is coordinated by the county emergency dispatch system. All fire districts in Spokane County participate in the Spokane County Fire Mutual Aid System. This is an agreement that allows for support, additional resources, and specialized teams if they are needed from other districts or agencies. Mutual aid agreements allow other municipalities and agencies to utilize nearby assets when needed, providing timely fire and rescue response to all areas of the county based on available resources. Fires that occur on forestland are often handled by joint jurisdictional response with the Washington Department of Natural Resources under mutual aid agreement.

4.6.4.5.5 Fire Ignition

According to data provided by the Washington Department of Natural Resources for the period of 1970 through 2007, man is the primary source of wildfire ignition in SPA 5. Lightning accounted for only 25.7% of all the fire ignitions. Man caused fire ignitions include debris burning, children, smoking, campfires, fireworks, electrical fence, railroad sparks, arson and equipment.



4.6.4.5.6 Risk Assessment

Residents within SPA 5 have variable risk of experiencing a wildland fire depending on the location and proximity to vegetation cover. Residences within the forest and woodland areas are at the highest risk and residences in the rural farmland are at a lower risk. As more forested land is developed for home sites, increasing pressure will be placed on fire services for protection. Vegetation, slope, and wind direction can be a factor in determining whether a non-threatening surface fire spreads to the forest and becomes a dangerous crown fire. In forested areas, clearings and fuel breaks will disrupt a slow moving wildfire enabling successful suppression. During a fast moving wildfire event, escape and containment is the priority.

Agricultural and ranching activities throughout the area have the potential to increase the risk of a man-caused wildfire spreading to the forested areas. Large expanses CRP or annual crops provide areas of continuous fuels that have potential to threaten homes and farmsteads in a wildfire situation. Under extreme weather conditions, escaped agricultural or open range fires can threaten individual homes or a town site; however, this type of fire is usually quickly controlled. High winds increase the rate of fire spread and intensity of rangeland fires. It is imperative that homeowners implement fire mitigation measures to protect their structures and families prior to a wildfire event.

4.6.4.5.7 Mitigation Activities

Mitigation measures needed in forested areas include constructing a defensible space around structures and along access routes, pruning and thinning trees, mowing and removing weeds and other vegetation, and moving flammable items such as propane tanks and wood piles to a safe distance. Maintaining a clean and green yard around home sites is also an effective fire mitigation measure. Additionally, using fire resistant siding, decking, and roofing will help reduce the ignitability of the structure. Many home sites in the wooded rural areas of this SPA have adequate defensible space, but this situation is spotty or non-continuous due to either a lack of education, homeowner's desire for seclusion, or lack of funding to accomplish mitigation treatments. Without education and widespread mitigation treatments, significant loss of life and property due to a wildfire is likely.

Many access routes in this SPA, especially on the north side, are located in areas of moderate to high fire risk due to the close proximity of continuous fuels along the roadway. In the event of a wildland fire, it is likely that one or more of the escape routes would become impassable. Signing of unrestricted alternate escape routes would reduce confusion and save time in a wildfire situation. Roads and driveways accessing rural residential areas may or may not have

adequate road widths for firefighting equipment depending on when the residences were constructed. Most fire codes now require compliance with minimum standards for new construction.

Designing a plan to help firefighters control fires in CRP and on agricultural land that lie adjacent to forest and riparian areas would significantly lessen a fires potential of escaping to the forest. Mitigation associated with this type of fire might include plowing a fire resistant buffer zone around fields and along pre-designed areas to tie into existing natural or manmade barriers or implementing a prescribed burning regime during less risky seasons of the year.

Roads and rail lines can be made more fire resistant by frequently mowing along the edges to reduce the fuels or planting more fire resistant grasses in these highly prone areas. Aggressive initial attack on fires occurring along travel routes will help insure that these ignitions do not spread to nearby home sites.

Maintaining developed drafting sites and mapping alternative water resources such as ponds and stock tanks near developed areas will increase the effectiveness and efficiency of emergency response during a wildfire.

4.6.4.6 SPA 6: Fire District #3

SPA 6 is located in southwest Spokane County and covers all of Fire District 3 and the communities of Medical Lake, Cheney, Spangle, Tyler, and the Turnbull National Wildlife Refuge. This planning area is very rural outside of the communities of Cheney and Medical Lake. The southwest corner is dry, agricultural farmland with areas of mixed conifer forest and riparian shrub land on rolling terrain. To the west and north the prehistoric Missoula flood waters have shaped the landscape exposing vast areas of basalt scablands. This rocky terrain is spotted with numerous lakes and riparian areas surrounded by ponderosa pine forests. Where soil is available in the scablands, there are extensive areas of irrigated and non-irrigated farmland.

There is a wide variety of land uses throughout the area including forestry, agriculture, a college campus, commercial properties, industrial properties, and a National Wildlife Refuge. Landownership is predominantly private with several large tracts of land administered by the Washington Department of Natural Resources, Bureau of Land Management, and U.S Fish & Wildlife Service. Extensive home site development is occurring in rural areas surrounding Cheney, Tyler, Medical Lake, the Interstate 90 corridor, and in the ponderosa pine dominated scablands. Home site development in the rural forested areas is often along forest routes; some with one-way in, one-way out access adjacent to wildland fuels.

4.6.4.6.1 Fire Potential

Wildfire potential in SPA 6 is low to moderate in the rural farmland and moderate to high in the forested and wooded riparian areas. Wildland fuels in the forested areas are variable density stands of ponderosa pine mixed with a variety of understory shrubs and grasses. Due to the dry site conditions and rocky terrain prevalent in the ponderosa pine scablands on the west side of this planning area, forest cover is often intermittent. Areas between forest stands consist of rock outcrops, grass, shrubs, and riparian areas. These changing fuel types would produce a variable intensity fire depending on wind conditions and terrain.

Agricultural and riparian lands lying next to forested land are a wildfire concern. Depending on the time of year, slope, and weather, fuels such as grasses, brush, and agricultural crops can easily ignite. If these fuels are adjacent to forested areas, a surface fire may move into the forest creating a wildfire situation during times when forest fire risk is normally low. A wind-

driven fire in agricultural fuels or dry native fuel complexes would produce a rapidly advancing, but variable intensity fire. Fires burning in some types of un-harvested fields would be expected to burn more intensely with larger flame lengths due to the greater availability of fuels. CRP fields burn very intensely due to an increased amount of fuel build up from previous years' dead growth. Larger flame lengths and intense heat make fires in these fields difficult to control. Under extreme weather conditions, particularly strong winds, there is a high potential for a rapidly advancing fire.

4.6.4.6.2 Ingress-Egress

Primary ingress and egress routes traveling through SPA 6 include Interstate 90, Highway 195, Highway 902, the Cheney-Spokane Road, and the Mullinix-Martin Road. Primary access through Turnbull National Wildlife Refuge is by way of the Cheney-Plaza-Rock Lake Road. Access to rural subdivisions is typically well-developed allowing escape by people living in the area as well as access by emergency services during a fire event. Many access routes in the rural wooded areas have wildland fuels in close proximity to the road. In a wildfire situation, access may be blocked or restricted unless mitigation measures are taken to reduce wildland fuels along these routes.

4.6.4.6.3 Infrastructure

Residents within the communities of Medical Lake, Cheney, Spangle, and Tyler as well as developed subdivisions have access to municipal water systems. In these areas public fire hydrants are available for structural protection. Outside of these areas, development typically relies on personal or multiple home well systems. Lakes and ponds are very common throughout the planning area providing additional water sources for wildfire suppression.

Spokane County has a 911 Emergency Communication System in place to link citizens with emergency response agencies. The system receives telephone requests for fire, medical or police services and directs those calls via telephone transfers and/or sophisticated computer systems to the appropriate agencies for dispatch. Referenced in this arrangement is a rural addressing system that identifies home locations by address. Rural address numbers are clearly displayed at the entrance to home sites along access routes to assist in emergency response.

Above ground, high voltage transmission lines crisscross the planning area and would generally not be affected by a wildfire. Local public electrical utility lines travel along roads and highways and are exposed to damage from falling trees. Power and phone services into forested areas are both above and below ground. Power and communications may be cut to some of these areas in a wildfire situation.

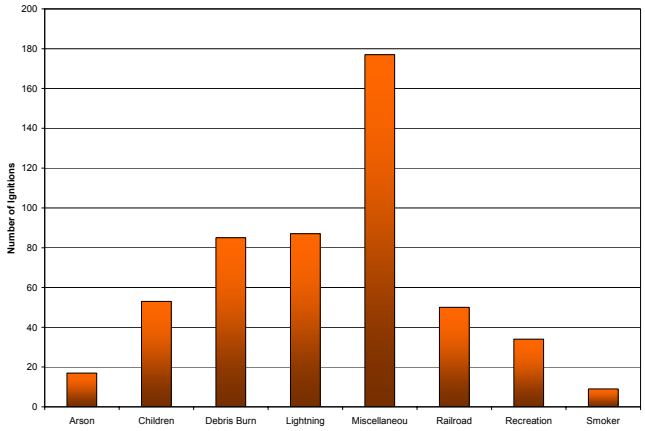
4.6.4.6.4 Fire Protection

Fire Protection in SPA 6 is primarily under the jurisdiction of Fire District 3 in addition to the Medical Lake and Cheney city departments. Fire District 3 has ten fire stations in the district to provide the first level of emergency response. Emergency response is coordinated by the county emergency dispatch system. All fire districts in Spokane County participate in the Spokane County Fire Mutual Aid System. This is an agreement that allows for support, additional resources, and specialized teams if they are needed from other districts or agencies. Mutual aid agreements allow other municipalities and agencies to utilize nearby assets when needed, providing timely fire and rescue response to all areas of the county based on available

resources. Fires that occur on forestland are often handled by joint jurisdictional response with the Washington Department of Natural Resources under mutual aid agreement.

4.6.4.6.5 Fire Ignition

According to data provided by the Washington Department of Natural Resources for the period of 1970 through 2007, man is the primary source of wildfire ignition in SPA 6. Lightning accounted for only 16.9% of all the fire ignitions. Man caused fire ignitions include debris burning, children, smoking, campfires, fireworks, electrical fence, railroad sparks, arson and equipment.



4.6.4.6.6 Risk Assessment

Residents with in SPA 6 have a moderate to high risk of experiencing a wildland fire due to the diversity of vegetation cover present and the current trend in rural forest home site development taking place. As this trend continues, it will put increased pressure on fire protection services and the need for improved infrastructure and education. Vegetation, slope, and wind direction can be a factor in determining whether a non-threatening ground fire spreads to the forest canopy and becomes a dangerous crown fire. In forested areas, clearings and fuel breaks will disrupt a slow moving wildfire enabling successful suppression. During a fast moving wildfire situation, escape and containment is the priority.

Agricultural and ranching activities throughout the area have the potential to increase the risk of a man-caused wildfire spreading to the forested areas. Large expanses of fields, CRP, or annual crops provide areas of continuous fuels that have potential to threaten homes and farmsteads in a wildfire situation. Under extreme weather conditions, escaped agricultural or open range fires can threaten individual homes or a town site; however, this type of fire is usually quickly controlled. High winds increase the rate of fire spread and intensity of rangeland fires. It is imperative that homeowners implement fire mitigation measures to protect their structures and families prior to a wildfire event.

4.6.4.6.7 Mitigation Activities

Mitigation measures needed in forested areas include constructing a defensible space around structures and along access routes, pruning and thinning trees, mowing and removing weeds and other vegetation, and moving flammable items such as propane tanks and wood piles to a safe distance. Maintaining a clean and green yard around home sites is also an effective fire mitigation measure. Additionally, using fire resistant siding, decking, and roofing will help

reduce the ignitability of the structure. Many home sites in the wooded rural areas of this SPA have adequate defensible space, but this situation is spotty or non-continuous due to either a lack of education, homeowner's desire for seclusion, or lack of funding to accomplish mitigation treatments. Without education and widespread mitigation treatments, significant loss of life and property due to wildfire is probable.

Many access routes in this SPA are located in areas of moderate to high fire risk due to the close proximity of continuous fuels along the roadway. In the event of a wildland fire, it is likely that one or more of the escape routes would become impassable. Signing of unrestricted alternate escape routes would reduce confusion and save time in a wildfire situation. Many roads and driveways accessing rural residential areas do not have adequate road widths or turnouts for firefighting equipment, particularly in older developments. Current fire codes now require compliance with minimum road standards for new construction.

Designing a plan to help firefighters control fires in CRP fields and on agricultural land that lies adjacent to forest and riparian areas would significantly lessen the fire danger to adjacent development. Mitigation associated with this type of fire might include plowing a fire resistant buffer zone around fields and along pre-designed areas to tie into existing natural or manmade barriers or implementing a prescribed burning regime during less risky seasons of the year.

Roads and rail lines can be made more fire resistant by frequently mowing along the edges to reduce the fuels or planting more fire resistant grasses in these highly prone areas. Aggressive initial attack on fires occurring along travel routes will help insure that these ignitions do not spread to nearby home sites.

Maintaining developed drafting sites and mapping alternative water resources such as underground tanks near the heavily populated areas will increase the effectiveness and efficiency of emergency response in a wildfire situation.

4.6.4.7 SPA 7: Fire District #9

SPA 7 is centrally located in Spokane County just north of the city of Spokane and Spokane Valley and includes all of Fire District 9 as well as the unincorporated area associated with Riverside State Park. Mead is the largest urban area in this planning unit with its southern urban boundary blending with the city of Spokane. SPA 7 is predominantly a rural area outside of Mead and the highway 2 and 395 corridors. There is a wide variety of land uses throughout the area including forestry, agriculture, several schools, a college campus, commercial properties, industrial properties, major petroleum pipelines and storage facilities, railways, and two dams. The Spokane and Little Spokane Rivers pass through this SPA converging at the boundary with Stevens County to the northwest. Landownership is predominantly private with several large tracts of State land administered by the Washington DNR and Washington State Parks (Riverside State Park). Extensive home site development is occurring in the rural forested areas adjacent to wildland fuels. These homes are typically accessed by timbered forest routes; some with one-way in, one-way out roads.

4.6.4.7.1 Fire Potential

Wildfire potential in SPA 7 is moderate to high in the rural areas and moderate to low in the developed, urban corridor. Wildland fuels in rural areas consist of mixed conifer forest, seasonal agricultural crops, wooded riparian areas, shrub land, and pasture. The more urban areas contain parks and open space as well as vacant land with a variety of cover vegetation. Topography is rolling to steep near the mountain areas to the east and river breaks to the west and flat to gently rolling throughout the prairie lands and river valleys. In the forested areas the

timber is a patchwork of age classes created by differing land management objectives. In many areas, agriculture and forested land lies adjacent to residential developments and individual home sites.

Riverside State Park is located along the Spokane and Little Spokane Rivers in the west central portion of this planning area. The park provides overnight camping for individuals and groups as well as a system of hiking and biking trails in close proximity to the Spokane metropolitan area. Camping, picnicking, hiking and day use facilities are developed throughout the park area and adjoining wildland fuels. Due to the close proximity of the park to the Spokane metropolitan area and its heavy use, there is increasing potential for wildfires in this area.

Agricultural and riparian lands lying next to forested land are a wildfire concern. Depending on the time of year, slope and weather, agricultural fuels can ignite easier and have the potential to spread into the forest creating a wildland fire during times when forest fire risk is normally low. A wind-driven fire in agricultural fuels or dry native fuel complexes would produce a rapidly advancing, but variable intensity fire. Fires burning in some types of un-harvested fields would be expected to burn more intensely with larger flame lengths due to the greater availability of fuels. CRP fields burn very intensely due to an increased amount of fuel buildup from previous years' dead growth. Larger flame lengths and intense heat make fires in these fields difficult to control. Under extreme weather conditions, particularly strong winds, there is a high potential for a rapidly advancing fire. Agricultural burning adjacent to wooded areas without the appropriate precautions can lead to an escaped wildfire.

4.6.4.7.2 Ingress-Egress

Primary ingress and egress routes traveling north-south through SPA 7 include Highway 2 and 395, Forker Road, and Market Street. Primary and secondary routes traveling east-west include Hastings, Hawthorn, Mount Spokane Park Drive, Bigelow Gulch, Rudder Parkway/Waikiki, Nine Mile Rd/Highway 291, and Charles/South Bank Roads. Charles Road and South Bank Road on the west side of the planning area are narrow, windy routes with mostly one way in, one way out access passing through a heavily forested area. During a fire event, escape by people living in this area as well as access by emergency services would be difficult.

4.6.4.7.3 Infrastructure

Residents within the urban corridor and the community of Mead as well as developed subdivisions have access to municipal water systems. In these areas, public fire hydrants are available. Outside of these areas, development typically relies on personal or multiple home well systems. The Spokane and Little Spokane Rivers provide additional water sources for emergency fire suppression in the rural areas to the west.

Spokane County has a 911 Emergency Communication System in place to link citizens with emergency response agencies. The system receives telephone requests for fire, medical or police services and directs those calls via telephone transfers and/or sophisticated computer systems to the appropriate agencies for dispatch. Referenced in this system is a rural addressing that identifies home locations by address. Rural address numbers are clearly displayed at the entrance to home sites along access routes to assist in emergency response.

Remote forested areas with in the planning area generally have logging road access enabling access for fire suppression equipment. Most of these roads were designed for logging trucks, which also accommodates larger fire equipment.

Above ground, high voltage transmission lines crisscross the planning area in wide, cleared corridors that would not likely be affected by a wildfire. Local public electrical utility lines

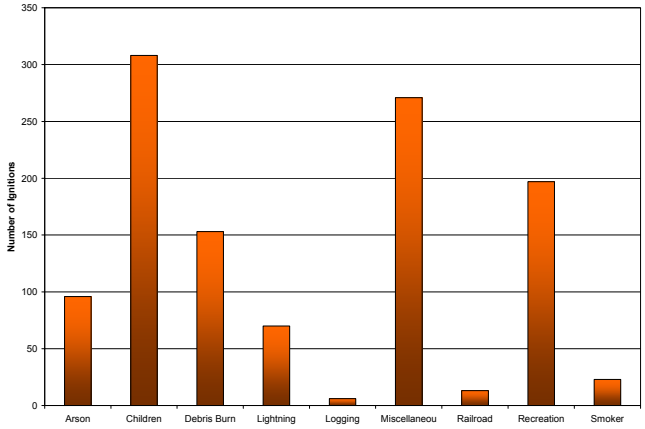
travelling along roads and highways are exposed to damage from falling trees. Power and phone service into forested areas are both above and below ground. Power and communications may be cut to some of these areas during a wildfire.

4.6.4.7.4 Fire Protection

Fire Protection in SPA 7 is under the jurisdiction of Fire District 9. Fire District 9 has eight fire stations in the district to provide the first level of emergency response. Emergency response is coordinated by the county emergency dispatch system. All fire districts in Spokane County participate in the Spokane County Fire Mutual Aid System. This is an agreement that allows for support, additional resources, and specialized teams if they are needed from other districts or agencies. Mutual aid agreements allow other municipalities and agencies to utilize nearby assets when needed, providing timely fire and rescue response to all areas of the county based on available resources. Fires that occur on forestland are often handled by joint jurisdictional response with the Washington Department of Natural Resources under mutual aid agreement.

4.6.4.7.5 Fire Ignition

According to data provided by the Washington Department of Natural Resources for the period of 1970 through 2007, man is the primary source of wildfire ignition in SPA 7. Lightning accounted for only 6.0% of all the fire ignitions. Man caused fire ignitions include debris burning, children, smoking, campfires, fireworks, electrical fence, railroad sparks, arson and equipment.



4.6.4.7.6 Risk Assessment

Residents with in SPA 7 have a moderate to high risk of experiencing a wildland fire in the wooded forests and river breaks and moderate to low risk in the urban corridor and agricultural land. Home site development appears to be on the rise within the rural areas of this SPA and many of the developed sites are surrounded by wildland fuels. As this trend continues, it will put increased pressure on fire protection services and the need for improved infrastructure and education. Defensible space treatments were observed around many homes in the wooded areas, but many others obviously lacked mitigation work or adequate escape. The desire for seclusion, viewsheds, and privacy creates dangerous living conditions in the forest environment often without the landowner's awareness of the potential consequences. In forested areas, clearings and fuel breaks will disrupt a slow moving wildfire enabling successful suppression. During a fast moving wildfire, escape and containment is the priority.

Agriculture, grazing, and wooded riparian areas lying next to forested land are a wildfire concern. Depending on the time of year, slope, and weather, fuels such as grasses, brush and agricultural crops can easily ignite. If these fuels are within close proximity to forested areas, a surface fire may move into the forest canopy creating a wildfire situation during times when forest fire risk is normally low. A wind-driven fire in agricultural fuels or dry native fuel complexes would produce a rapidly advancing, but variable intensity fire. Fires burning in some types of un-harvested fields would be expected to burn more intensely with larger flame lengths due to the greater availability of fuels. CRP fields burn very intensely due to an increased amount of fuel build up from previous years' dead growth. Larger flame lengths and intense heat make fires in these fields difficult to control. Under extreme weather conditions, particularly strong winds, there is a high potential for a rapidly advancing fire.

4.6.4.7.7 Mitigation Activities

Mitigation measures needed in forested areas include constructing a defensible space around structures and along access routes, pruning and thinning trees, mowing and removing weeds and other vegetation, and moving flammable items such as propane tanks and wood piles a safe distance away. Maintaining a clean and green yard around home sites is also an effective fire mitigation measure. Additionally, using fire resistant siding, decking, and roofing will help reduce the ignitability of the structure. Many home sites in the wooded rural areas of this SPA have adequate defensible space, but this situation is spotty or non-continuous due to either a lack of education, homeowner's desire for seclusion, or lack of funding to accomplish mitigation treatments. Without education and widespread mitigation treatments, significant loss of life and property due to wildland fire is likely.

Many access routes in this SPA, especially on the west side, are located in areas of moderate to high fire risk due to the close proximity of continuous fuels along the roadway. In the event of a wildland fire, it is likely that one or more of the escape routes would become impassable. Signing of unrestricted alternate escape routes would reduce confusion and save time in a wildfire situation. Many roads and driveways accessing rural residential areas do not have adequate road widths or turnouts for firefighting equipment, particularly in older developments. Current fire codes now require compliance with minimum road standards for new construction.

Designing a plan to help firefighters control fires in CRP fields and on agricultural land that lies adjacent to forest and riparian areas would significantly lessen the fire danger to adjacent development. Mitigation associated with this type of fire might include plowing a fire resistant buffer zone around fields and along pre-designed areas to tie into existing natural or manmade barriers or implementing a prescribed burning regime during less risky seasons of the year.

Roads and rail lines can be made more fire resistant by frequently mowing along the edges to reduce the fuels or planting more fire resistant grasses in these highly prone areas. Aggressive initial attack on fires occurring along travel routes will help insure that these ignitions do not spread to nearby home sites.

Maintaining developed drafting sites and mapping alternative water resources such as underground tanks near the heavily populated areas will increase the effectiveness and efficiency of emergency response in a wildfire situation.

4.6.4.8 SPA 8: Hangman Valley – Liberty Lake

SPA 8 is located in the center of Spokane County just south of the city of Spokane and the Spokane Valley. It includes the southern portion of Liberty Lake and Liberty Lake Regional Park to the east, the Dishman-Mica/State Route 27 corridor through the mid section, high density

residential areas outside the Spokane Municipal Boundary on the north end, and portions of Hangman Valley and the Moran Prairie to the west. SPA 8 takes in all of Fire District 8 and a section of unincorporated fire protection to the east. This planning area is heavily populated with rural and semi-rural residential areas located in the midst of heavy wildland fuels.

Most of SPA 8 is a mosaic of rural farmland, wooded stream channels, shrub land, and mixed conifer forest except on the east side which is dominated by continuous commercial forestland and county park. Major drainages through the planning area include Hangman Creek, California Creek, Chester Creek, Cottonwood Creek, and Liberty Creek, which are all tributaries of the Spokane River. Landownership is predominantly private with several large tracts owned by forest Industry, Spokane County, and the Washington Department of Natural Resources. Land subdivision for home sites is common throughout the area. Some of this subdivision is for large organized multi-home development, but most of it is for secluded semi-remote sites in timbered areas or converted farmland with one-way in, one-way out roads. Most structures lie adjacent or in close proximity to wildland fuels on widely varying terrain.

4.6.4.8.1 Fire Potential

Fire potential in SPA 8 is moderate to high throughout the area. Wildland fuels consist of mixed conifer forest, seasonal agricultural crops, wooded riparian areas, shrub land and pasture. These fuels lie adjacent to home sites and organized housing developments in many locations. Topography is rolling to steep near the mountains to the east, wooded foothills south of Spokane, and flat to gently rolling terrain in the creek valleys and prairie.

Liberty Lake Regional Park on the east side of the planning area provides overnight camping for individuals and groups as well as a system of trails in close proximity to the community of Liberty Lake and the Spokane metropolitan area. Camping, picnicking, hiking, and day use facilities are developed throughout the park area adjoining wildland fuels. Adjacent to the park are vast areas of commercial timberland with varying age classes and stocking densities capable of carrying a high intensity crown fire. Due to the close proximity of the park to the Spokane metropolitan area and its heavy use, there is increasing potential for wildfires in this area.

Agricultural and riparian lands lying next to forested land are a wildfire concern. Depending on the time of year, slope, and weather, grasses, brush and agricultural fuels can ignite easier and have the potential to move a surface fire into the forest creating a wildland fire during times when forest fire risk is normally low. A wind-driven fire in agricultural fuels or dry native fuel complexes would produce a rapidly advancing, but variable intensity fire. Fires burning in some types of un-harvested fields would be expected to burn more intensely with larger flame lengths due to the greater availability of fuels. CRP fields burn very intensely due to an increased amount of fuel build up from previous years' dead growth. Larger flame lengths and intense heat make fires in these fields difficult to control. Under extreme weather conditions, particularly strong winds, there is a high potential for a rapidly advancing fire.

4.6.4.8.2 Ingress-Egress

Primary ingress and egress routes traveling through SPA 8 include State Highway 27, Dishman-Mica Road, and Hangman Valley Road. These routes are well developed, paved arterials providing access to and from the Spokane Valley. Access to rural subdivisions and small ranches is well-developed allowing escape by people living in the area as well as access by emergency services during a fire event. Roads in newer subdivisions have been designed to accommodate emergency vehicles with either loop roads or cul-de-sacs with wide turning radii

and easily negotiable grades for large emergency equipment. Many residences in the forested areas are accessed via unimproved roads accessible only by small emergency vehicles. In these areas, access roads and driveways are often lined with shrubs and mature trees that can limit or prohibit access during a wildfire. Generally, these roads lack adequate turnouts and turn-around areas for emergency vehicles. The inability of emergency resources to safely access structures reduces or may even eliminate suppression response.

4.6.4.8.3 Infrastructure

Residents within residential areas on the southern outskirts of Spokane as well as most developed rural subdivisions have access to municipal or co-op water systems. In these areas, public fire hydrants are available for structural protection. Outside of these areas, development typically relies on personal or multiple home well systems. Creeks and ponds are common throughout the planning area providing additional water sources for emergency wildfire suppression.

Spokane County has a 911 Emergency Communication System in place to link citizens with emergency response agencies. The system receives telephone requests for fire, medical or police services and directs those calls via telephone transfers and/or sophisticated computer systems to the appropriate agencies for dispatch. Referenced in this arrangement is a rural addressing system that identifies home locations by address. Rural address numbers are clearly displayed at the entrance to home sites along access routes to assist in emergency response.

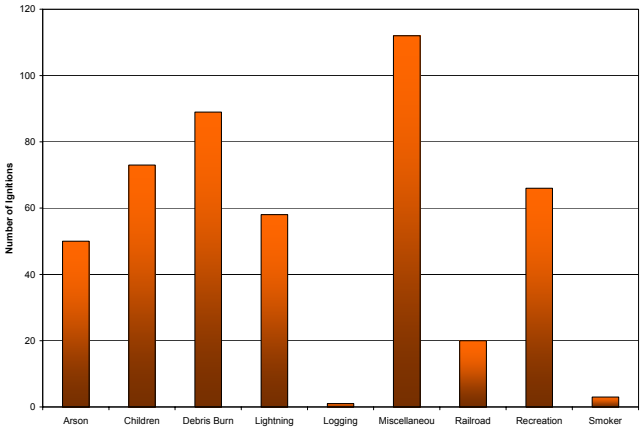
Above ground, high voltage transmission lines crisscross the planning area and would generally not be affected by a wildfire. Local public electrical utility lines travel along roads and highways are exposed to damage from falling trees in the forested areas. Power and phone service into forested areas are both above and below ground. Power and communications may be cut to some of these areas during a wildfire situation.

4.6.4.8.4 Fire Protection

Fire Protection in SPA 8 is primarily under the jurisdiction of Fire District 8. Fire District 8 has five fire stations to provide the first level of emergency response. Emergency response is coordinated by the county emergency dispatch system. All fire districts in Spokane County participate in the Spokane County Fire Mutual Aid System. This is an agreement that allows for support, additional resources, and specialized teams if they are needed from other districts or agencies. Mutual aid agreements allow other municipalities and agencies to utilize nearby assets when needed, providing timely fire and rescue response to all areas of the county based on available resources. Fires that occur on forestland are often handled by joint jurisdictional response with the Washington Department of Natural Resources under mutual aid agreement.

4.6.4.8.5 Fire Ignition

According to data provided by the Washington Department of Natural Resources for the period of 1970 through 2007, man has been the primary source of wildfire ignition in SPA 8. Lightning accounted for only 12.2% of all the fire ignitions. Man caused fire ignitions include debris burning, children, smoking, campfires, fireworks, electrical fence, railroad sparks, arson and equipment.



4.6.4.8.6 Risk Assessment

Residents with in SPA 8 have risk of experiencing a wildland fire depending on location and proximity to vegetation cover. Residences within the forest and woodland areas are at the highest risk and residences in the rural farmland are at a lower risk. As more forested land is developed for home sites, increasing pressure will be placed on fire protection services for protection. Vegetation, slope and wind direction can be a factor in determining whether a non-threatening surface fire spreads to the forest and becomes a dangerous crown fire. In forested areas, clearings and fuel breaks will disrupt a slow moving wildfire enabling successful suppression. In a fast moving wildfire situation, escape and containment is the priority.

Agricultural and ranching activities have the potential to increase the risk of a man-caused wildfire spreading to the forested areas. Large expanses of CRP fields or annual crops provide areas of continuous fuels that have potential to threaten homes and farmsteads in a wildfire situation. Under extreme weather conditions, escaped agricultural or open range fires can threaten individual homes or a town site; however, this type of fire is usually quickly controlled. High winds increase the rate of fire spread and intensity of rangeland fires. It is imperative that homeowners implement fire mitigation measures to protect their structures and families prior to a wildfire event. Most homeowners can maintain an adequate defensible space around structures by watering their yards, clearing brush, or mowing grass and weeds.

4.6.4.8.7 Mitigation Activities

Mitigation measures needed in forested areas include constructing a defensible space around structures and along access routes, pruning and thinning trees, mowing and removing weeds and other vegetation, and moving flammable items such as propane tanks and wood piles to a safe distance. Maintaining a clean and green yard around home sites is also an effective fire mitigation measure. Additionally, using fire resistant siding, decking, and roofing will help reduce the ignitability of the structure. Many home sites in the wooded rural areas of this SPA have adequate defensible space, but this situation is spotty or non-continuous due to either a lack of education, homeowner's desire for seclusion, or lack of funding to accomplish mitigation treatments. Without education and widespread mitigation treatments, significant loss of life and property due to wildland fire is likely.

Many primary access routes in this SPA are located in areas of moderate to high fire risk due to the close proximity of continuous fuels along the roadway. These access routes include State Route 27, Dishman-Mica Road to the east, and Hangman Valley Road to the west. In the event of a wildland fire, it is likely that one or more of the escape routes would become impassable.

Signing of unrestricted alternate escape routes would reduce confusion and save time in a wildfire situation. Many roads and driveways accessing rural residential areas do not have adequate road widths or turnouts for firefighting equipment, particularly in older developments. Current fire codes now require compliance with minimum road standards for new construction.

Designing a plan to help firefighters control fires in CRP and on agricultural land that lies adjacent to forest and riparian areas would significantly lessen a fires potential of escaping to the forest canopy. Mitigation associated with this type of fire might include plowing a fire resistant buffer zone around fields and along pre-designed areas to tie into existing natural or manmade barriers or implementing a prescribed burning regime during less risky seasons of the year.

Roads and can be made more fire resistant by frequently mowing along the edges to reduce the fuels or planting more fire resistant grasses in these highly prone areas. Aggressive initial attack on fires occurring along travel routes will help insure that these ignitions do not spread to nearby home sites.

Maintaining developed drafting sites and mapping alternative water resources such as ponds and stock tanks near developed areas will increase the effectiveness and efficiency of emergency response in a wildfire situation.

4.7 Fire Department Information

Fire district personnel are often the first responders during emergencies. In addition to structure fire protection, they are called on during wildland fires, floods, landslides, and other events. There are many individuals in Spokane County serving fire protection departments in various capacities. The following is a summary of the departments and some of the issues they currently face. A list of each department's current equipment resources is available in the County Resource Guide. A map of the fire protection organization's coverage areas is presented in Appendix I.

The firefighting resources and capabilities information provided in this section is a summary of information provided by the fire chiefs or representatives of the wildland firefighting agencies listed. Each organization completed a survey with written responses. Their answers to a variety of questions are summarized here. These synopses indicate their perceptions and information summaries.

4.7.1 City of Spokane Fire Department

Chief: Bobby Williams
Telephone: (509) 625-7001
e-Mail: bwilliams@spokanefire.org
Address: 44 W. Riverside Ave., Spokane, WA 99201

District Summary: This district encompasses Spokane City limits and has a variety of service areas to include heavy, medium and light commercial/industrial areas, a densely populated urban core area (downtown and Browne's Addition), mixed residential areas, suburban and urban/wildland interface areas.

The Spokane Fire Department is a professional, fully paid, 314 uniformed member department covering 59 square miles and a population of just over 200,000 residents. With 14 fire stations, we provide fire, emergency medical, and other emergency response for the community in addition to participating in mutual aid response to neighboring districts.

Issues of Concern:

1. The population within the Spokane City limits has steadily increased over time. This trend is expected to continue. Some areas of the City have a greater response time due to City's (infrastructure) inability to keep up with development (i.e. development occurring too far from fire stations). Increased population and development in the wildland urban interface and "in fill" areas matched with an increase in service calls continue to be chief concerns. Access issues and education/awareness of fire service coverage and limitations also continues to be a challenge.
2. Our current radio system will need to be updated in the very near future as required by the Federal Communications Commission (FCC) is going to require all new or modified radio systems after June 2013 to be narrowband. None of our current radio equipment will work on this new band. In addition, the International Association of Fire Chiefs (IAFC) has adopted P25 (digital format) for communication systems under homeland security. Funding for upgrade has yet to be achieved.
3. Most outdoor burning is not allowed within the City limits. Recreational fires less than 3 feet in diameter and/or less than 2 feet in height such as a cooking fire and campfires using charcoal or firewood that occur in designated areas or on private property for cooking, pleasure, or ceremonial purposes are allowed. Fires used for debris disposal are not considered recreational fires. Spokane Clean Air may issue written permits for fires greater than 3 feet in diameter and/or greater than 2 feet in height (e.g. special/social events).

Cooperative Agreements: Various cooperative agreements exist with neighboring jurisdictions.

District Needs: The City of Spokane Fire Department, like many jurisdictions, struggles with a lack of resources for services expected and provided. Apparatus replacement is critical, and the City does not have a vehicle replacement plan in place for fire apparatus. Personnel are another critical area that is lacking to include line *and* staff personnel. With continuous growth in population and an increasingly challenging demographic environment, the City of Spokane Fire Department will need to manage and increase staffing and equipment levels to keep up with service demands.

4.7.2 City of Cheney Fire Department

Chief: Mike Winters
Telephone: (509) 498-9291
e-Mail: mwinters@cityofcheney.org
Address: 611 Fourth Street, Cheney, WA 99004

District Summary: One station covering 4.37 square miles within the city and 33.5 square miles of auto aid coverage. The population of Cheney is 10,300 residents and 10,000 students at Eastern Washington University. There are 19 total personnel including 1 Chief, 9 firefighters, 4 residents, 6 paid on-call firefighters, and 1 secretary. The Cheney Department's 2008 budget was $1,037,000. They responded to 1,101 calls in 2007 with an average response time of 4:13.

Issues of Concern:

1. Growth on the north and east side of the city may impede response times. The east side of the city is dissected by railroad tracks and also presents a significant wildland concern.
2. No open burning is allowed within the city limits.

3. Access issues in regards to response to east side of the city, especially with 63 trains passing through the city daily.

Cooperative Agreements: Auto aid agreements with SCFD #3 and participation in the Spokane County Fire Resource plan**.**

District Needs: More staffing, more brush equipment (hose, nozzles, packs, shelters, tools).

4.7.3 Spokane Valley Fire Department

Chief: Mike Thompson
Telephone: 509-928-1700
E-mail: ThompsonM@SpokaneValleyFire.com
Address: 10319 E. Sprague Ave
Spokane Valley, WA 99206

District Summary: The Spokane Valley Fire Department serves an area of approximately 75 square miles, encompassing the cities of Spokane Valley and Liberty Lake, the town of Millwood, and unincorporated areas of the Spokane Valley. Within these bounds are 125,000 residents, 43,000 homes, 4,500 businesses, 53 schools, 20 nursing homes, and a major hospital. The area is predominately suburban with some commercial centers and light agriculture. Much of the perimeter consists of timbered urban interface, with approximately 1,000 homes being identified as “at risk”.

The Department is governed by a five-member board of fire commissioners and employs approximately 160 full-time, fully paid personnel staffing 10 fire stations. See below for details on apparatus.

Issues of Concern:

1. The Washington State Boundary Review Board plans on a population growth between 2000 and 2010 at 9.7% in the City of Spokane Valley and 16.9% in the unincorporated areas of the county. This would indicate much more significant growth in semi-rural urban interface areas. While some of this new construction might serve to mitigate dangerous fire potential by “filling in” the wildland voids, limits on minimum lot size will ensure that significant interface areas will continue to exist and likely grow.
2. Fire Department/District communications are handled predominately through the Combined Communications Center (CCC), which provides voice and data services throughout the county. The current equipment infrastructure is largely 20 years old and below the new federal mandates. A proposed levy measure will address these issues, although a previous attempt was unsuccessful.
3. The majority of the district is within the Regional Clean Air Agency (Spokane Clean Air) no-burn boundaries for residential (yard and garden) burning and within an urban growth area (UGA), which substantially limits fuel reduction burning. The district may enter into a Fire Hazard Abatement Burning Agreement with Spokane Clean Air for abating fire hazards created by the accumulation of natural vegetation. Some agriculture burns are still permitted. The Washington Department of Natural Resources (DNR) issues permits beyond these restrictions.
4. Another significant area of concern is limited access into developing urban interface areas. The Department has taken a proactive role in slowing such expansion until the safe ingress and egress of citizens, as well as firefighting resources, can be ensured.

Cooperative Agreements: The firefighting agencies within Spokane County, including DNR, have signed mutual aid agreements in accordance with the Washington State Interlocal

Cooperation Act. Requests for assistance and operations conducted under this agreement are facilitated under the procedures outlined in the Spokane County Fire Resource Plan.

4.7.4 Spokane County Fire District #3

Chief: Bruce Holloway
Phone: 509-235-6645
Address: 10 S. Presley
Cheney, WA 99004

District Summary: Spokane County Fire District 3 is located in the Southwest part of Spokane County. There are 565 square miles in the district and a population of approximately 15,000 people. There are 120 paid call firefighters, 7 full time career staff, 5 full time career command staff, a fabricator and a secretary. There are 10 fire stations, 30 in service apparatus and 3 command units. The majority of the area protected is rural but there are significant areas of residential development consisting of lot sizes from 1 to 10 acres, most of it wildland urban interface. There is a growing area of commercial/industrial/high density residential development in the northeast part of the district with water and sewer provided by the City of Spokane.

Spokane County Fire District 3 is a full service fire department. We provide fire suppression for industrial/commercial, residential and wildfire risks. The district has a significant potential for wind driven wildfire events with wildland urban interface problems and we expend considerable effort preparing for this. Emergency Medical Service is provided in a tiered response system with the district providing the initial BLS response, including the use of automatic external defibrillation (AED) for heart attack patients. EMS is provided out of seven stations; Station 31, Station 33, Station 34, Station 35, Station 36, Station 310 and Station 312. Personnel are trained to a minimum level of first responder/AED. Paramedic service is provided by the transport agencies.

Issues of Concern:

1. There is significant residential growth in the North East Corner of our district utilizing Spokane City water and sewer. This is increasing our population dramatically and we are seeing an increase in call volume as a result. There is also a dramatic increase in residential growth in the wildland urban interface areas in our pine forests. The new lot sizes are generally ten acres but there are numerous structures already built in these areas with smaller lots. All of these areas are prone to fast moving wind driven fires under the right conditions. New development adheres to stringent requirements for defensible space and road access but there are large areas of older development that do not incorporate these measures.
2. We have an adequate communication system that enables us to utilize one repeated frequency all over the district. We can use more repeated frequencies on most of the district and we have a countywide plan in place to increase the repeated frequency capability on the part of the district that only has one fire frequency. We need to obtain a funding source to accomplish this. We have a countywide communications center that dispatched all the fire agencies in Spokane County. We also have access to tactical channels to manage large incidents. Our communications plan is being developed in conjunction with the law enforcement agencies.
3. We recently completed a vehicle upgrade program that modernized our firefighting fleet. We passed a special levy that enabled us to build 7 new trucks. This effort modernized our fleet with newer vehicles, we added additional pumper tenders to the fleet and also replaced older attack engines. We plan to continue to replace at least a truck a year to maintain the currency of the fleet.

4. The State Department of Natural Resources and Spokane Clean Air regulate debris burning. We have a few incidents regarding burning but they are usually not significant.

Cooperative Agreements: Spokane County has a fire service mutual aid plan, which includes all of the fire departments in Spokane County. This plan enables us to access all of the resources in Spokane County. We also have mutual aid with the Turnbull Refuge for wildfire response and joint jurisdiction responsibility with the Washington State Department of Natural Resources. Washington State has a fire mobilization plan that gives us access to all of the local fire resources in our state. Spokane County has three type III teams available to help with major incidents. We provide initial attack for the Bureau of Land Management for fires in their protection areas in our district and in areas in Whitman and Lincoln Counties.

District Needs: Spokane County Fire District 3 will continue to be actively engaged in upgrading and modernizing existing vehicles and equipment assets. Protecting our community and our firefighters is our paramount objective. The building of a new fire station in the Aspen Meadows area and in the area of the suburban development at Thomas Mallon and Hallet are in the planning stages at this time. The Station at Aspen Meadows is due for construction the spring of 2008. These stations will provide coverage to the Aspen Meadows area, which is over five miles from any existing station and bolster the response in the developing area. These new stations will provide added space for apparatus necessary to provide better coverage and house specialized equipment for the commercial/industrial area of the district. In doing so we can continue to provide the level of service our community is used to.

4.7.5 Spokane County Fire District #4

Chief: Ed Lewis
Phone: 509-467-4500
Address: 3219 E. Chattaroy Road
Chattaroy, WA 99003

District Summary: Spokane County Fire District 4 is located in Northern Spokane County and serves the communities of Deer Park, Chattaroy, Elk, Colbert, Wild Rose, Riverside, Green Bluff, Mt. Spokane and Wayside. District 4 is a combination fire department with volunteer and career firefighters that protect 330 square miles of rural and suburban areas north of the City of Spokane including the City of Deer Park. The District is bordered on the north by Pend Oreille County; the east by Mt. Spokane; the south by Fire District 9; and the west by Stevens County. The population in District 4 is approximately 40,000 residents. Service is provided from nine stations with 11 Class A Pumpers, 7 Water Tenders, 15 Wildland/Brush Engines, and 16 Support vehicles.

The District includes residential, light commercial, agricultural and heavily forested properties. In 2007, the District responded to 2002 incidents.

Issues of Concern:

1. During the past 5 years, District 4 has experienced nearly 25% of the new home starts in the county. Residential growth has occurred in all areas of Fire District 4, but primarily in large housing developments in the southern portion of the District. Large farms have been sub-divided into small acreage building sites and poor access and lack of adequate water systems have created response issues for the department.
2. We currently use a county wide dispatch system that is operating with very old infrastructure and at times limits our ability to effectively communicate with units through out the county. A funding plan to upgrade the system is currently being worked on to meet the current and future unfunded mandates. In addition to the VHF radio system

used today, cell phone coverage across the District is very limited due to the lack of cell towers.

3. Increased “No-Burn” areas substantially limit homeowners from reducing the fuels on their property by burning the material. Hauling the material to a disposal site or chipping is cost prohibitive due to the quantity. Financial assistance to the property owners would greatly enhance the fuel reduction.
4. Due to the large geographic area of District 4, there are still some very remote areas where homeowners have chosen to build. Access to these areas to provide service is very difficult due to inadequate road systems. Education to homeowners prior to issuing building permits and follow-up inspections would be very beneficial.

Cooperative Agreements: All Spokane County fire service agencies have signed a Mutual Aid Agreement. With all fire departments in Spokane County dispatched from one communications center, this allows for a coordinated effort in resource allocation during a major incident. District 4 also has an agreement with the Department of Natural Resources for response to joint jurisdiction areas. This agreement provides initial attack during the summer months when DNR has staffing available.

District Needs: District 4 is currently updating apparatus needs as financial resources become available. Future station locations are being defined to provide a more timely response and improve the insurance ratings. Two areas identified include the Elk-Chattaroy and the Eloika Lake area.

A critical need that is in question this year is having aircraft available during the summer. The PBY that was available for initial attack for a number of years is no longer available. Until a viable contract for similar aircraft is in place, ground resources will have a higher probability of larger incidents occurring.

4.7.6 Spokane County Fire District #5

Chief: Kjell Anderson
Telephone: 509-994-5270 cell
e-Mail: kjell.anderson@wafair.ang.af.mil
Address: 17217 W. Four Mound Rd.
Nine Mile Falls, WA 99026

District Summary: Spokane County Fire Protection District #5 is located in the northwest section of Spokane County, Washington. We have 25 volunteer Firefighters who provide Fire and Emergency Medical Services to approximately 1,800 residents within a rural 90 square mile area. There are no fire hydrants and the roads consist mainly of rough gravel and dirt. We also provide mutual aid to five surrounding districts substantially increasing our area. We make an average of 75 runs annually. We have been meeting our district’s needs to the best of our ability with the limited resources we have while developing SOP’s consistent with federal, county and local codes. We are also part of a tiered response area within Spokane County and are called to protect high risk areas with accelerated fire behavior and support the Office for Domestic Preparedness in and out of our district. We cover the following critical infrastructures with first due response: numerous tanks of anhydrous ammonia for agricultural use throughout the district, lands under daily flight patterns for both Spokane International Airport and Fairchild Air Force Base (aircraft refueling base), an active railroad line supporting HAZMAT crews as well as fires caused by sparks, urban interface communities (a rapidly growing feature in our district), 6,914 acres of Conservation Reserve Program land, heavily forested State Park areas, DNR land (we are an initial response and contract resource), communities during Washington State Mobilization and Spokane County MIST Team, two large dams: WA Water Power’s Long Lake

Dam and Coulee Dam, and the oldest, active, steel-towered, transmission power line in the world. The history of fires in our district and adjacent areas are characterized as having a frequent fire return interval. The potential for more large fires remains and grows right along with the wild grasses from Conservation Reserve Program coupled with frequent, extreme high winds. The Federal Register categorizes our area as a Risk Factor 1, Situation 1 for Infrastructure where there are no fire hydrants, no pressure water systems and no evacuation plan in an area surrounded by a fire conducive landscape. In the last 15 years, over 40,000 acres and over 120 homes and outbuildings have burned in our area with winds in excess of 60 miles per hour.

Issues of Concern:

1. We would like to collaborate more closely with Spokane County Building and Planning/Engineering and the county's GIS department regarding tracking of plat development/mapping for more current demographics in order to make accurate risk assessments. We believe that public education BEFORE plat development is crucial for fire prevention. Would like to have funding to help educate current and future residents to emergency preparedness.
2. We would like help in planning multi-agency training drills regarding communications with current resources as well as possibly plan grant projects on a region-wide basis where our volunteers receive the same or equivalent training as career departments receive. Would like to make sure our communications equipment is interoperable with other entities. Would like to have funding for more Incident Command training – hands on – for department leaders.
3. We have not had many issues with burn permits or regulations of them. We have an agreement with Spokane County Air Pollution Control Agency to issue residential yard and garden burn permits and charge a fee we are allowed to keep for administrative costs. It has worked out well. It would be great to have funds to set up a chipper/shredder day for the public.

Cooperative Agreements: Automatic Mutual Aid Contracts with: Spokane County FD10, Spokane County FD9, Spokane County FD3, Stevens County FD1, Lincoln County FD4, WA State DNR, Spokane City FD.

District Needs: Funding for public education including website management and high speed internet services, volunteer retention and recruitment including incentives and training, funds for a third station more centrally located with room for public meetings and multiple public uses, wellness and fitness program, updated wildland gear, new engine/tender vehicle, exhaust removal system, automatic generator, just to name a few!

4.7.7 Spokane County Fire District #8

Chief: William Walkup
Telephone: 509-926-6699
e-Mail: bwalkup@scfd8.org
Address: PO Box 345
12100 E Palouse Hwy
Valleyford, WA 99036

District Summary: Every aspect of the District's work and service is managed by one of the four division managers. Our business is in the service industry, that is; we are in the business of providing SERVICE to a group of very important customers. . .our citizens. Our customers have very high expectations and it is our desire to meet and exceed their expectations.

Spokane County Fire District 8 was formed on August 29, 1947 and operates under the statutory authority provided by RCW Title 52. We are subject to the rules of municipal corporations within the laws and constitution of the state of Washington.

The District is governed by a three member Board of Fire Commissioners who is elected, at large, by the citizens of the District, for staggered 6 year terms on a 2 year rotating basis to ensure continuity of the governance of the District. One position on the Board is up for election at the general election held in November of every odd numbered year. The Board of Fire Commissioners must act together as a unit to govern the affairs of the District. This governance includes the setting of policy and approval of the annual revenue and expense budget for the District as well as the selection, appointment and hiring of the Fire Chief/Chief Executive Officer to manage the affairs of the District. The Board of Fire Commissioners meets regularly on the third Wednesday of each month beginning at 6:00 p.m. at our Headquarters - Station 82. Their meetings are open to the public and are subject to very specific laws related to the Open Public Meetings Act.

The District lies south of the City of Spokane and south of the City of Spokane Valley encompassing approximately 110 square miles of urban, suburban, and rural properties, which includes the communities of: Saltese, Ponderosa, Painted Hills, Mica, Freeman, Valleyford, Moran, Glenrose, and a very diverse population of approximately 23,000 citizen customers. The assessed value of the District is approximately 1.8 billion dollars, which provides for an annual budget of approximately 3.7 million dollars through property tax levies for fire and emergency medical services as provided for by statute.

The District operates out of four strategically located facilities to provide a full range of services to the citizens. The facilities are located at: Station 81 – S. 6117 Palouse Highway, Headquarters Station 82 – E. 12100 Palouse Highway, Station 84 – S. 4410 Bates Road, and Station 85 – S. 3324 Linke Road.

The agency responds to over 1,000 requests for service each year. This response is provided by a highly trained, well equipped, and very competent staff of personnel made up of volunteer, full time, resident, and temporary hourly members. The District currently has authorized 28 full time positions, 16 temporary-hourly positions, up to 16 resident firefighter positions, and 70 volunteers. The District also uses volunteers to support the operations of the agency in a number of very key positions and we are seeking ways to continue to enhance the use of members of the community in the pursuit of our mission.

Issues of Concern:

1. The District wants to make sure we have requirements in place to insure adequate access and egress to areas experiencing growth and that this take into consideration the totality of the user population.
2. The District wants to insure that the community is aware of evacuation and provide education on shelter in place needs.
3. The District would like to explore the possibility of having a central number and clearing house for people to call in burn permits then notification to dispatch.

Cooperative Agreements: Spokane County Mutual Assistance Agreement, DNR and District 8 Agreement

4.7.8 Spokane County Fire District #9

Chief: Robert Anderson
Telephone: (509) 466-4602

e-Mail: dbleeker@scfd9.org
Address: 3801 E. Farwell Road
Mead, WA 99021

District Summary: Formed by the taxpayers in 1948, Spokane County Fire District #9 encompasses an area of approximately 122 square miles with a population of about 45,000. Located north of the city of Spokane, Washington, the District stretches 25 miles from east to west. This area represents a variety of land uses. Within Fire District 9 are single family and multi-family residential dwellings, rural forested lands, agricultural areas, several schools, a college campus, commercial properties, industrial properties, major petroleum pipelines, and storage facilities, railways, two dams, and two major state highways. Providing emergency services within this growing and evolving suburban area is a complex and demanding business.

The District's 165 personnel operate from eight fire stations, four of which are staffed with a combination of fulltime career companies and volunteer on-call firefighters. The other four stations are staffed solely by volunteer on-call firefighters. Fire District 9 also hosts a residential firefighter program to enhance staffing and provide training and experience opportunities for program participants working toward a career in the fire service.

The District has earned an ISO class-4 fire insurance rating, which provides significant savings to District property owners and ratings.

In addition to our fire prevention and suppression services, Fire District 9 also provides emergency medical services including Advanced Life Support (Paramedic) care. The emergency medical services are delivered through a tiered response system using the response of the closest engine company backed up by a dedicated ALS unit or Paramedic engine company. EMS transport is done by private company providers (air and ground transport available).

Fire District 9 is home to several progressive programs including a technical rescue team, a fire investigation task force, public education, and regional training opportunities.

Rescue and emergency medical services generate about 63% of our call volume and fires generate about 5.5%. Of all fire calls, wildland fires constitute roughly 35% and structure fires constitute about 21% of all fire calls.

Issues of Concern:

1. Residential growth is usually constrained by water system availability. Current Spokane County codes require that water supply for firefighting be in place before approval of residential development unless parcels are five acres or greater in size, one to four acres in size where more than four parcels are created, or one to four acres in size and any parcel is within 350' of a water system. Larger lots of five acres or more are developed without any water supply. Smaller groupings of lots one to four acres in size can also be developed without water supplies. Another concern with residential growth is periodic assaults on road standards. Spokane County has a rather comprehensive set of road standards based on nationally recognized standards and local experience that provide for adequate fire service access to homes. Proponents often challenge established road standards as too burdensome and attempts to reduce access for fire departments are not uncommon.
2. Spokane County fire service agencies share a communications backbone system with police agencies. That backbone infrastructure is aging and is barely able to support current communications needs and does not conform to federal mandates for bandwidth changes. A consultant has been hired and plans are on the table to upgrade the

communications system to support fire and police needs in the future. One attempt to gain voter funding for communications infrastructure upgrades was reallocated and used to fund jails. A second attempt is in the works. Failure to anticipate this looming problem may result in collapse of communications infrastructure for police and fire.

3. Spokane County Fire District 9's problems with burning does not stem from permit regulations. Burn regulations appear to be adequate for our needs. Our illegal burning tends to come from individuals who refuse to comply with any burn regulations. We do receive periodic complaints from taxpayers about logging operations where logging slash is not removed expeditiously. County code does not require this and in some cases logging slash is left in place for long periods of time.

Cooperative Agreements: The Fire District utilizes a very extensive mutual assistance program of sharing resources (giving and receiving) across jurisdictional boundaries to maximize available resources and enhance the services available to our citizens. The Fire District has mutual aid agreements with every fire agency within Spokane County and participates in the Washington State Fire Resource Mobilization Plan. In addition, the Fire District has intergovernmental assistance agreements with the Washington DNR, Washington State Parks, and the federal fire agencies providing protection for parks and natural areas.

District Needs: With such a large urban-wildland intermix, our greatest demand for fire suppression service is in the wildland arena. Involvement in the national Firewise workshop efforts show that our codes and laws regarding wildland fire-safe construction and development are better than in many Washington counties. Our greatest contribution to fire protection can be realized through fuel treatments in wildland areas. In some areas of our district, fuel accumulations are so thick firefighters have trouble walking through the brush. In many cases, fuel accumulations are too thick to allow wildland fire apparatus to access the fire. Fighting fire in such areas is dangerous and in some cases impossible; forcing firefighters to try and attack the fire when it gets to areas where safe access and anchor points exist. Vegetation treatments that reduce surface fuel loads, decrease biomass accumulations, open up timber stands, and eliminate ladder fuels help slow fire spread, create areas where firefighters can stop advancing fires, and reduce risks of higher-intensity crown fires. Such actions would also promote greater forest health, enhance ecosystems, and improve forest resistance to disease and insect infestations. Many property owners have been reluctant to implement nationally recommended fuel treatments on their land. In some cases, the problem has been absentee landlords. The costs and labor involved are too great for some landowners. In still other cases, landowners do not want anything done to their land regardless of the fire hazards. With grant funding support, we believe we could assist those landowners who are interested in mitigating fuel hazards, but lack resources to deal with the problem.

Another concern is the recent loss of an initial attack air resource that all wildland agencies in Spokane County have relied on for years. Until this year, a local flight agency has maintained a contract with the Washington DNR to keep a Type 3 air tanker on station at the Deer Park airport. That aircraft provided quick initial air attack with very short turnaround times. With the termination of that contract, fire agencies in Spokane County are left without a critical initial attack tool that cannot be replaced with ground resources.

4.7.9 Spokane County Fire District #10

Chief: Nick Scharff
Telephone: (509) 244-2425
e-Mail: nscharff@scfd10.org
Address: Box 2199

Airway Heights, WA 99001

District Summary: District 10 covers just under 100 square miles on the West Plains of Spokane County. District 10 is a full service fire department which protects areas that may be considered urban at some future time; however, today it is suburban and mostly rural by land mass. In 2007, District 10 responded to 1,075 calls for services of which 80% were medical in nature. The remainder includes commercial or residential structure responses, wildland fire, hazmat calls, and others.

The District is served by a 3 member board of commissioners, a paid staff of 6, and a volunteer force of 55 to 65, which varies by time of year, schooling commitments, other jobs, and family commitments.

Much of District 10 is flat with the main drainage of Deep Creek that runs perpendicular through the district. Most of the significant fires in the past have been wind driven in light, flashy fuels along with patches of timber and variable topography.

Issues of Concern:

1. Residential growth in the rural areas has seen a significant growing trend in the past 5 years with single family homes on 5, 10, and 20 acres parcels and some larger tracts of land and some lot size subdivisions. Many of the homes are in or near forested lands.
2. The Deep Creek drainage seems to present the most difficult communication issue with limited cell phone coverage and limited VHF emergency radio availability in many places. Also, digital paging seems to have weak spots either in the system or in the hardware.
3. The Washington DNR writes all burn permits for forest debris and logging slash disposal. It would have some benefit to the fire districts and their dispatch center to have burn permit information available to them.
4. Access to some properties and homes is limited by bridges across drainages and seasonal water ways that have or appear to have weight limits inadequate for fire apparatus. It seems there may be a need to get insurance carriers to recognize this as a deficiency.

Cooperative Agreements: District 10 currently has a cooperative agreement with the BLM. In the past, the District has hosted an interagency wildland engine with the DNR and the BLM.

District Needs: District 10 needs to update and complete fleet of wildland engines. This should include brush or attack type engines at each station. A water tender located at each rural station to help with areas that have long turnaround times for resupply. We need to establish more rural water sources for fire suppression needs and improve/update mapping of higher fire hazard areas in the district to include bridge load capacities. District 10 needs to establish a reliable communication system throughout the entire district, which may include a mobile repeater in a district vehicle. The District also needs to establish a good public network to deliver prevention materials to land and homeowners.

4.7.10 Spokane County Fire District #13

Chief: Rick A. Cokley
Telephone: (509) 226-1482
e-Mail: chief1301@comcast.net
Address: P.O. Box 70
Newman Lake, WA 99025

District Summary: District #13 covers 23 square miles that are mostly wildland and urban interface areas. There is a population of 2,000 to 3,000 year round residents with potential for 5,000 during summer months. The District has huge wildland fire potential due to homes with poor or non-existent road access and no water supply except for the lake.

Issues of Concern:

1. Since our district is all residential with virtually no commercial, we would like to see a County wide, or failing that, an ordinance requiring residential fire sprinklers in our area. Continued residential growth impacts our ability to provide services with an all-volunteer force. There is not currently enough revenue to go to paid staffing.
2. Communications is very problematic in our area. Spokane County does not seem to have a clear direction on where we are going in the future (vhf, 700 mhz., 800 mhz?) and we must have the ability to communicate with DNR and other agencies.
3. We would like to see all residential burning banned!

Cooperative Agreements: DNR, District 1, Hauser Lake Fire

District Needs: Wildland Fire prevention and pre-fire mitigation would be a high priority. Cannot do it with volunteer personnel!

4.8 Wildland Fire Districts

State and federal agencies such as the U.S. Forest Service, Bureau of Land Management, and the Washington Department of Natural Resources generally provide wildland fire suppression services on their ownership. Furthermore, these agencies will also work with local fire departments to form mutual aid agreements for wildland fire suppression assistance outside of their jurisdiction. The following summaries describe agencies in Spokane County who currently have wildland fire responsibilities and resources.

4.8.1 Washington Department of Natural Resources

Northeast Region
Colville, WA 99114
509 684-7474

Arcadia District - Work Center, Deer Park, WA

The Department of Natural Resources provides wildfire protection and suppression on privately owned forest land and state owned forest land in the state of Washington.

The Arcadia District of the DNR encompasses approximately 2.1 million acres of private and state lands in the counties of Spokane, Stevens, Lincoln and Pend Oreille in northeast Washington. Mutual Aid Agreements with 18 rural fire protection districts, the Colville National Forest, the Spokane Indian Agency, The Kalispel Indian Agency, US Fish and Wildlife Service, and the National Park Service provide for DNR assistance in fire protection assistance in and adjacent to the Arcadia District. The border of the Arcadia District includes all of Spokane County, the portion of Lincoln County north of US Hwy 2, the portion of Stevens County south of Deer Lake and east of the Hunters divide, and the portion of Pend Oreille County South of Tiger and Sullivan Lake.

Special features within the district include the Cities of Spokane and Spokane Valley, the Kalispel Indian Reservation, Spokane Indian Reservation, Turnbull National Wildlife Refuge, Mt. Spokane State Park, Riverside State Park, Lake Roosevelt National Recreation Area, and portions of the Colville National Forest.

The district's primary workstation is located in Deer Park, north of Spokane. The DNR utilizes a "home guard" approach in that the seasonal engine drivers park their assigned engines at their residence within their assigned geographic portion of the district. The Arcadia District staffs ten to eleven 3-person brush engines within the district each season, with one engine in south Stevens County, one engine in South Pend Oreille County, and the remainder spread through out Spokane County. Engine staffing is on a varied schedule that provides seven day per week coverage June through September.

The Arcadia District is also is home to a fixed wing air tanker on contract by the state and is available from mid June until the fire season is declared over in the fall, usually late September.

The DNR maintains "call when needed" contracts for Dozers and operators trained and equipped for fire suppression throughout the district.

The Arcadia District is also the home to the Airway Heights Camp Program, which staffs five 10 person inmate hand crews trained in wildland fire suppression.

DNR crews are neither trained nor equipped for structure suppression. Primary protection responsibilities are on private and state forest land throughout northeast Washington and the DNR also responds to fires off of DNR jurisdiction which threaten DNR protection.

The DNR does not provide formal EMT services. The crews are trained in first-aid, and some staff members have EMT and first-responder training, but this is not a service the DNR provides as part of their organization.

Personnel: The Arcadia District fire program staff totals 38-40 individuals, including 4 permanent employees, 5 career-seasonal employees who work up to nine months each year, and 30 seasonal employees on staff from roughly June to September. These are all paid staff members trained in wildland fire, but not in structure protection. Within the District an additional 5-8 permanent employees work in other programs, but assist in the fire program during the summer as needed.

Mutual Aid Agreements: The DNR has individual mutual aid agreements with local fire protection districts. Through the "Master Agreement" and "Northwest Compact", the DNR has mutual aid agreements with Federal Agencies, neighboring states and Canada.

Make/Model	Capacity (gal)	Pump Capacity	Type
Ford	240	120	Wildland T6
Ford	240	120	Wildland T6
Ford	240	120	Wildland T6
Ford	240	120	Wildland T6
Ford	240	120	Wildland T6
Ford	240	120	Wildland T6
Ford	240	120	Wildland T6
Ford	240	120	Wildland T6
Ford	240	120	Wildland T6
Ford	240	120	Wildland TB
International	600	120	Wildland T5

The Arcadia District Contracts Dozers as needed. The Arcadia District is home to the 5— 10 person Airway Heights crews. The Arcadia District is base to the PBY, Tanker 85. The Arcadia District staff includes: Type 3 Incident Commanders and Division Supervisors, and other various NWCG rated overhead staff. The Arcadia District maintains a supply cache and two mop-up support trailers with portable pumps, hose, and fittings.

Additional suppression resources include:

Helicopter: The DNR has six type 2 helicopters based out of Ellensburg, and they are staged throughout the state as needed. In times of high fire danger there is often a helicopter staged at Colville and occasionally at Deer Park.

Fixed-Wing: The DNR Northeast Region often partakes in contracting a fixed-wing platform for Air-Attack during peak fire periods.

Air Tankers: In addition to the fixed wing air tanker in Deer Park, the Arcadia district has access to federal tankers. Coeur d' Alene Air Tanker Base is nearby and often has a tanker on base during high fire danger periods, although with reduced aircraft the availability has decreased. In addition, the DNR is able to utilize Canadian air tankers through agreements.

4.8.2 U.S. Fish and Wildlife Service, Turnbull National Wildlife Refuge

Chief: Nancy Curry
Telephone: 509-235-4723
e-Mail: Nancy_Curry@fws.gov
Address: 26010 S. Smith Rd.
Cheney WA 99004

Refuge Summary: Turnbull NWR was established by executive order in 1937 for the conservation and enhancement of wildlife, specifically ducks. This 17,000 acre preserve is in the channeled scablands ecosystem that is highlighted by over 350 temporary wetlands dotted through the refuge. In addition, there are 160 permanent wetlands that provide year around breeding and forage for the resident wildlife species. Due to our location in the urban interface, our appropriate management response is to suppress all fires. We also do a fair amount of prescribed fire and our goal is to ignite around 800 acres per year. We have cooperative agreements with SPCFD#3 to provide assistance in suppressing wildfires. We also are signators to the master agreement with the Washington DNR that also provides assistance for fire suppression on their lands.

Issues of Concern:

Expansive development and subdividing of lands around the refuge is of great concern for not only wildlife but fire suppression too.

We have been directed to go narrow band ahead of the rest of the wildland fire community and this issue has caused problem in fire operations.

Our burning is regulated by the DNR as a silvicultural treatment. PM 2.5 will have significant impact to our program in as little as two years. This could lessen our ability to burn by 50%.

Cooperative Agreements: The NWR has one Type 6 engine and one Type 5 engine that assist Spokane County Fire District #3 and DNR through mutual aid agreements.

District Needs: Replacement of engines over ten years old

4.8.3 Bureau of Land Management, Spokane District

Scott Boyd - Fire Management Officer
1103 N Fancher
Spokane, WA 99212
sboyd@or.blm.gov
509 536-1237

District Summary:

The Spokane District BLM has 2 engines. One is located in Spokane and the other in Wenatchee. With the District's scattered ownership pattern, the engines are usually on scene after initial attack forces have arrived. The engines are available off district and out of state.

Cooperative Agreements

The Spokane District BLM has Coop agreements with the Colville National Forest and the DNR.

4.9 Spokane County Fire Protection Issues

4.9.1 Increased Wildfire Education and Awareness

As more and more people move into the wildland urban interface of Spokane County, the need for a coordinated wildfire education program becomes paramount. Many new residents in high wildland fire risk areas are not aware of the potential threat nor do they recognize the lack of defensibility and/or accessibility of their homes. It is important that the local fire districts and departments in Spokane County have the funding and materials they need to develop educational programs for citizens in their response areas. General awareness of the risk, home defensible space, evacuation procedures, sheltering, and adequate access to structures are just a few of the potential topics that could be covered. A concerted effort to provide basic materials to all fire districts and other cooperating organizations should be considered by Spokane County. This would reduce the overall and individual cost to the districts as well as improve the quality of education and materials to be presented.

4.9.2 Continued Residential Growth

Growth will continue to present the greatest challenge to fire management in the urban interface over the long term. Between 2000 and 2010, it has been estimated that urban areas in Spokane County will grow by 9.7% and unincorporated areas will grow by 16.9%.

The dramatic increase in demand for homes throughout Spokane County has resulted in significant changes in land use patterns. Many agricultural lands and private non-industrial forest lands have been sold and subdivided over the last few decades, pushing residential development further into the wildland-urban interface. This trend will continue into the future, as forestland and rangelands are sold for real estate development. This will have a dramatic effect on the ability of emergency resources to maintain current levels of fire protection without considerable increases in funding for equipment, personnel, and training. Indeed, several emergency response resources in Spokane County are already at a critical threshold. Further increases in protection responsibility will come at the expense of preparedness, as emergency resources are increasingly spread over an expanding protection area.

4.9.3 Accessibility

Fire chiefs throughout the County have identified home accessibility issues as a primary concern in some parts of Spokane County. Many homes and driveways have been constructed without regard to access requirements of large emergency vehicles. Lack of accessibility restricts engagement by fire suppression resources. Enforcement of Spokane County's existing road standards regarding road and driveway construction regulations for fire apparatus would prevent accessibility issues in new developments. Wildfire risk can be lessened and firefighter safety can be improved by keeping vegetation including tall grass, brush, and trees a safe distance from the road right-of-way. This will not only improve accessibility, but will also allow the road to serve as a control point for suppression activities. Furthermore, firefighter access

should not be impeded by locked gates or electronically controlled gates, overhead obstructions, low load capacity bridges, or other obstacles.

4.9.4 Yard and Garden Waste Burning Program

The burning of yard and garden waste is a vital part of many landowners' fuels reduction and property protection program. In many cases this is the only option available for landowners to get rid of hazardous fuel loads on their property due to a variety of reasons including physical capacity, limited access to necessary hauling equipment, distance to disposal sites, and many others. Burning yard and garden waste is an efficient and effective tool for fire mitigation; therefore, it is important that Spokane County maintain this type of public burning program.

4.10 Current Wildfire Mitigation Activities

Several organizations in Spokane County have been successful in developing, funding, and implementing wildland fire mitigation projects. These projects have been well-supported by the community and are helping to lessen the impact of wildfires on Spokane County residents, structures, ecosystems, and economy.

4.10.1 River Bluff Ranch Estates, FIREWISE Community

River Bluff Ranch in the southwestern part of Fire District #4 has been designated as a Fire-Wise Community. This development was in a heavily wooded area with little to no access and now includes covenants restricting certain building materials; providing defensible space areas around the homes; and fuel reduction has occurred with defensible space around the homes.

4.10.2 DNR Fuels Reduction Projects

Fuels reduction and forest health projects are currently cost-share funded by the DNR for multiple private landowners in Spokane County through the Forest Stewardship Program. Landowners are encouraged to complete and implement forest management plans and prescriptions that reduce the risk of fire and disease.

4.10.3 Mullen Hill Terrace Mobile Home Park CWPP

The Mullen Hill Terrace Mobile Home Park is located about one mile south of the Spokane city limits on State Route 195 in Spokane County. It is secluded in the middle of a ponderosa pine and Douglas-fir forest and consists of 120 small lots with manufactured and mobile homes. A community assessment and Community Wildfire Protection Plan have been completed. Fuel reduction, landscape changes, and access improvements were identified as wildfire risk mitigation measures. So far, two grant funded fuels reduction projects have been completed. Additional projects will be conducted by the community.

4.10.4 Ridge at Hangman

The Ridge at Hangman community is located about 3.5 miles south of the Spokane city limits on State Route 195 in Spokane County. It is located in a ponderosa pine and Douglas-fir forest. The 1987 Hangman Hills Fire resulted in the loss of several structures in this development and impacted many of the residents. The community is currently pursuing Firewise Community USA recognition. A risk assessment has been completed and several mitigation measures have been proposed including addressing improvements, fuels reduction projects, and defensible space improvements. The community has already sponsored fuels reduction projects in

common areas and along trails. Additional projects are currently underway with the assistance of the Spokane County Conservation District and DNR.

4.10.5 Multi-Jurisdictional Mutual Aid Agreements

Currently the cities, towns, fire protection districts, and wildland fire agencies within Spokane County have extensive mutual aid agreements that serve to increase the protection and effectiveness of all Spokane County fire response jurisdictions. Municipal and county fire departments provide mutual aid for each other to the fullest extent possible. The Spokane County Fire Districts have the opportunity for a suppression agreement with the Washington Department of Natural Resources. The agreement with the DNR allows for a Spokane County fire district to provide fire protection services to an area within the jurisdiction of the DNR located within the district and for the district to contract with the DNR to assist in fire protection services (on a limited basis) on forest land within the district's jurisdiction. These agreements significantly improve the capabilities and effectiveness of any and all individual fire departments as well as provide assistance to the DNR, F&WS, and BLM wildland fire departments. Not only does this improve the safety of Spokane County residents, structures, infrastructure, and lands, but it also facilitates good interdepartmental working relationships.

Chapter 5

5 Administration & Action Items

Critical to the implementation of this Community Wildfire Protection Plan will be the identification of, and implementation of, an integrated schedule of treatments targeted at achieving a reduction in the number of human caused fires and overall impact of wildland fires on Spokane County. As there are many land management agencies and thousands of private landowners in Spokane County, it is reasonable to expect that differing schedules of adoption will be made and varying degrees of compliance will be observed across all ownerships.

Spokane County encourages the philosophy of instilling disaster resistance in normal day-to-day operations. By implementing plan activities through existing programs and resources, the cost of mitigation is often a small portion of the overall cost of a project's design or program.

The land management agencies in Spokane County are participants in this planning process and have contributed to its development. Where available, their schedule of land treatments have been considered in this planning process to better facilitate a correlation between their identified planning efforts and the efforts of Spokane County.

All risk assessments were made based on the conditions existing during 2007 and 2008, thus, the recommendations in this section have been made in light of those conditions. However, the components of risk and the preparedness of the County's resources are not static. It will be necessary to fine-tune this plan's recommendations annually to adjust for changes in the components of risk, population density changes, infrastructure modifications, and other factors.

As part of the policy of Spokane County in relation to this planning document, this entire Community Wildfire Protection Plan should be reviewed annually (from date of adoption) at a special meeting of the planning committee, open to the public and involving all municipalities/jurisdictions, where action items, priorities, budgets, and modifications can be made or confirmed. The Washington Department of Natural Resources Project Section Manager and/or Spokane County Disaster and Emergency Management (or an official designee of the Spokane County Commissioners) is responsible for the scheduling, publicizing, and leadership of the annual review meeting. During this meeting, participating jurisdictions will report on their respective projects and identify needed changes and updates to the existing plan. Maintenance to the plan should be detailed at this meeting, documented, and attached to the formal plan as an amendment. Re-evaluation of this plan should be made on the 5th anniversary of its acceptance, and every 5-year period following.

5.1 Prioritization of Mitigation Activities

The prioritization process will include a special emphasis on benefit-cost analysis review. The process will reflect that a key component in any funding decision is a determination that the project will provide an equivalent or more in benefits over the life of the project when compared with the costs. Projects will be administered by county and local jurisdictions with overall coordination provided by the Washington Department of Natural Resources Project Section Manager and/or Spokane County Disaster and Emergency Management.

County Commissioners and the elected officials of all jurisdictions will evaluate opportunities and establish their own unique priorities to accomplish mitigation activities where existing funds,

staffing, and resources are available and there is community interest in implementing mitigation measures. If no federal funding is used in these situations, the prioritization process may be less formal. Often, the types of projects that the County can afford to do on their own are in relation to improved codes and standards, department planning and preparedness, and education. These types of projects may not meet the traditional project model, selection criteria, and benefit-cost model. The County will consider all pre-disaster mitigation proposals brought before the County Commissioners by department heads, city officials, fire districts and local civic groups.

When federal or state funding is available for hazard mitigation, there are usually requirements that establish a rigorous benefit-cost analysis as a guiding criterion in establishing project priorities. The County will understand the basic federal grant program criteria which will drive the identification, selection, and funding of the most competitive and worthy mitigation projects. FEMA's two grant programs (the Post-Disaster Hazard Mitigation Grant Program and Pre-Disaster Mitigation grant programs) that offer federal mitigation funding to state and local governments all include the benefit-cost and repetitive loss selection criteria.

The prioritization of new projects and deletion of completed projects will occur annually and be facilitated by the CWPP planning committee to include the County Commissioner's Office, city mayors and councils, fire district chiefs and commissioners, agency representatives (BLM, WA DNR, USFWS, etc.), and other community organizations. All mitigation activities, recommendations, and action items mentioned in this document are dependent on available funding and staffing. The prioritization of projects will be based on the selection of projects which create a balanced approach to mitigation which recognizes the hierarchy of treating in order (highest first):

- People
- Infrastructure
- Local and Regional Economy
- Traditional Way of Life
- Ecosystems

5.1.1 Prioritization Scheme

A numerical scoring system is used to prioritize projects. This prioritization serves as a guide for the County when developing mitigation activities. This project prioritization scheme has been designed to rank projects on a case by case basis. In many cases, a very good project in a lower priority category could outrank a mediocre project in a higher priority. The County mitigation program does not want to restrict funding to only those projects that meet the high priorities because what may be a high priority for a specific community may not be a high priority at the county level. Regardless, the project may be just what the community needs to mitigate disaster. The flexibility to fund a variety of diverse projects based on varying reasons and criteria is a necessity for a functional mitigation program at the County and community level.

To implement this case by case concept, a more detailed process for evaluating and prioritizing projects has been developed. Any type of project, whether county or site specific, will be prioritized in this more formal manner.

Since planning projects are somewhat different than non-planning projects when it comes to reviewing them, different criteria will be considered, depending on the type of project.

The factors for the non-planning projects include:

- Benefit / Cost

- Population Benefit
- Property Benefit
- Economic Benefit
- Project Feasibility (environmentally, politically, socially)
- Hazard Magnitude/Frequency
- Potential for repetitive loss reduction
- Potential to mitigate hazards to future development
- Potential project effectiveness and sustainability

The factors for the planning projects include:

- Benefit / Cost
- Vulnerability of the community or communities
- Potential for repetitive loss reduction
- Potential to mitigate hazards to future development

Since some factors are considered more critical than others, two ranking scales have been developed. A scale of 1-10, 10 being the best, has been used for cost, population benefit, property benefit, economic benefit, and vulnerability of the community. Project feasibility, hazard magnitude/frequency, potential for repetitive loss reduction, potential to mitigate hazards to future development, and potential project effectiveness and sustainability are all rated on a 1-5 scale, with 5 being the best. The highest possible score for a non-planning project is 65 and for a planning project is 30.

The guidelines for each category are as follows:

5.1.1.1 Benefit / Cost (BC)

The analysis process will include summaries as appropriate for each project as well as benefit / cost analysis results. Projects with a negative BC analysis result will be ranked as a 0. Projects with a positive BC analysis will receive a score equal to the projects BC analysis results divided by 40. Therefore a project with a BC ratio of 200:1 would receive 5 points, a project with a BC ratio of 400:1 (or higher) would receive the maximum points of 10.

FEMA Requirement §201.4(c)(4)(iii) details criteria for prioritizing communities and local jurisdictions that would receive planning and project grants under available funding programs, which should include consideration for communities with the highest risks, repetitive loss properties, and most intense development pressures. Further, the requirement states that for non-planning grants, a principal criterion for prioritizing grants shall be the extent to which benefits are maximized according to a BC review of proposed projects and their associated costs. For many of the initiatives identified in this plan, the County may seek financial assistance under FEMA's HMGP or PDM programs. Both of these programs require detailed BC analysis as part of the FEMA award process. Spokane County is committed to implementing mitigation strategies with benefits which exceed costs. For projects which do not require financial assistance from grant programs that require this type of analysis, the County reserves the right to define "benefits" according to parameters that would otherwise be considered subjective, while still meeting the needs and goals of the plan.

5.1.1.2 Population Benefit

Population benefit relates to the ability of the project to prevent the loss of life or injuries. A ranking of 10 has the potential to impact the entire population. A ranking of 5 has the potential to impact 50% of the population, and a ranking of 1 will impact approximately 10% of the

population. In some cases, a project may not directly provide population benefits, but may lead to actions that do, such as in the case of a study. Those projects will not receive as high of a rating as one that directly effects the population, but should not be considered to have no population benefit.

5.1.1.3 Property Benefit

Property benefit relates to the prevention of physical losses to structures, infrastructure, and personal property. These losses can be attributed to potential dollar losses. Similar to cost, a ranking of 10 has the potential to save $400,000,000 or more in losses. Property benefit of less than $400,000,000 will receive a score of the benefit divided by $400,000,000, times 10. Therefore, a property benefit of $80,000,000 would receive a score of 2 ([80,000,000÷400,000,000] x 10 = 2). In some cases, a project may not directly provide property benefits, but may lead to actions that do, such as in the case of a study. Those projects will not receive as high of a rating as one that directly effects property, but should not be considered to have no property benefit.

5.1.1.4 Economic Benefit

Economic benefit is related to the savings from mitigation to the economy. This benefit includes reduction of losses in revenues, jobs, and facility shut downs. Since this benefit can be difficult to evaluate, a ranking of 10 would prevent a total economic collapse, a ranking of 5 could prevent losses to about half the economy, and a ranking of 1 would not prevent any economic losses. In some cases, a project may not directly provide economic benefits, but may lead to actions that do, such as in the case of a study. Those projects will not receive as high of a rating as one that directly affects the economy, but should not be considered to have no economic benefit.

5.1.1.5 Vulnerability of the Community

For planning projects, the vulnerability of the community is considered. A community that has a high vulnerability with respect to other jurisdictions to the hazard or hazards being studied or planned for will receive a higher score. To promote planning participation by the smaller or less vulnerable communities in the state, the score will be based on the other communities being considered for planning grants. A community that is the most vulnerable will receive a score of 10, and one that is the least, a score of 1.

5.1.1.6 Project Feasibility (Environmentally, Politically & Socially)

Project feasibility relates to the likelihood that such a project could be completed. Projects with low feasibility would include projects with significant environmental concerns or public opposition. A project with high feasibility has public and political support without environmental concerns. Those projects with very high feasibility would receive a ranking of 5 and those with very low would receive a ranking of 1.

5.1.1.7 Hazard Magnitude/Frequency

The hazard magnitude/frequency rating is a combination of the recurrence period and magnitude of a hazard. The severity of the hazard being mitigated and the frequency of that event must both be considered. For example, a project mitigating a 10-year event that causes significant damage would receive a higher rating than one that mitigates a 500-year event that

causes minimal damage. For a ranking of 5, the project mitigates a high frequency, high magnitude event. A 1 ranking is for a low frequency, low magnitude event. Note that only the damages being mitigated should be considered here, not the entire losses from that event.

5.1.1.8 Potential for repetitive loss reduction

Those projects that mitigate repetitive losses receive priority consideration here. Common sense dictates that losses that occur frequently will continue to do so until the hazard is mitigated. Projects that will reduce losses that have occurred more than three times receive a rating of 5. Those that do not address repetitive losses receive a rating of 1.

5.1.1.9 Potential to mitigate hazards to future development

Proposed actions that can have a direct impact on the vulnerability of future development are given additional consideration. If hazards can be mitigated on the onset of the development, the County will be less vulnerable in the future. Projects that will have a significant effect on all future development receive a rating of 5. Those that do not affect development should receive a rating of 1.

5.1.1.10 Potential project effectiveness and sustainability

Two important aspects of all projects are effectiveness and sustainability. For a project to be worthwhile, it needs to be effective and actually mitigate the hazard A project that is questionable in its effectiveness will score lower in this category. Sustainability is the ability for the project to be maintained. Can the project sustain itself after grant funding is spent? Is maintenance required? If so, are or will the resources be in place to maintain the project. An action that is highly effective and sustainable will receive a ranking of 5. A project with effectiveness that is highly questionable and not easily sustained should receive a ranking of 1.

5.1.1.11 Final ranking

Upon ranking a project in each of these categories, a composite score can be derived by adding together each of the individual scores. The project can then be ranked high, medium, or low based on the thresholds of:

Project Ranking Priority Score Non-Planning Projects

- High 40-65
- Medium 25-39
- Low 1-24

Project Ranking Priority Score Planning Projects

- High 18-30
- Medium 12-17
- Low 1-11

The ranking of each project is included in the following tables. Additionally, the individual scores and final ranking of each action item are included in the Appendices.

5.2 Possible Wildfire Mitigation Activities

As part of the implementation of wildfire mitigation activities in Spokane County, a variety of management tools may be used. Management tools include but are not limited to the following:

- Homeowner and landowner education
- Policy changes for structures and infrastructure in the Wildland Urban Interface
- Home site defensible zone through fuels modification
- Community defensible zone through fuels alteration
- Access improvements
- Emergency response enhancements (training, equipment, locating new fire stations, new fire districts)
- Regional land management recommendations for private, state, and federal landowners

Maintaining private property rights will continue to be one of the guiding principles of this plan's implementation. Sound risk management is a foundation for all fire management activities. Risks and uncertainties relating to fire management activities must be understood, analyzed, communicated, and managed as they relate to the cost of either doing or not doing an activity. Net gains to the public benefit will be an important component of decisions.

5.3 Safety & Policy

Wildfire mitigation efforts must be supported by a set of policies and regulations at the County level that maintain a solid foundation for safety and consistency. The recommendations enumerated here serve that purpose. Because these items are regulatory in nature, they will not necessarily be accompanied by cost estimates. These recommendations are policy related in nature and therefore are recommendations to the appropriate elected officials; debate and formulation of alternatives will serve to make these recommendations suitable and appropriate.

Table 5.1. Action Items in Safety and Policy.

Action Item	Goals and Objectives	Responsible Organization	Timeline and Implementation Plan
5.1.a: Consider developing County policy concerning building materials used in high-risk WUI areas on existing structures and new construction.	**Protection of people and structures** by improving the ability of emergency response personnel to respond to threatened homes in high-risk areas. Planning Priority: High	**Lead** Spokane County Commissioners Office **Support:** Spokane County Fire Districts #1-13 and city fire departments.	Year 1 (2008): Consider and develop policy to address construction materials for homes and businesses located in high wildfire risk areas. Specifically, a County policy concerning wooden roofing materials and flammable siding, especially where adjacent to heavy wildland fuels.
5.1.b: Improve collaboration efforts between Spokane County and city building departments and local fire districts to increase the safety, defensibility, and emergency response aspects of plat development and mapping.	**Protection of people and structures** by improving plat development techniques to account for wildland fire issues. Planning Priority: High	**Lead:** Spokane County Commissioners Office **Support:** Spokane County Building, Planning, and Engineering Departments and Spokane County Fire Districts #1-13.	Year 1 (2008): Consider and develop policy to provide for improved collaboration between the County and local fire departments on plat development and planning processes.

Table 5.1. Action Items in Safety and Policy.

Action Item	Goals and Objectives	Responsible Organization	Timeline and Implementation Plan
5.1.c: Continue to test and evaluate evacuation plans in communities throughout Spokane County.	**Protection of people and structures** by improving emergency responder's ability to evacuate an area as quickly and efficiently as possible. Planning Priority: High	**Lead:** Spokane County and city law enforcement departments **Support:** Spokane County Fire Districts #1-13	Year 1 (2008): Identify areas with difficult or limiting ingress and egress and conduct tests and evaluations of evacuation plans. Ongoing: Educate area residents regarding the existence of an evacuation plan and how it works in their area.
5.1.d: Consider developing county policy to encourage new home and business construction to install underground utilities.	**Protection of people and structures by** reducing the risk of wildfire ignitions. Planning Priority: High	**Lead:** Spokane County Planning Department **Support:** Spokane County Commissioners Office and utility companies.	Year 1 (2008): Implement a policy to provide incentives for new utility lines to be buried underground. Year 1 (2008): Collaborate with Spokane County Public Utilities District and local utility companies to implement this policy.
5.1.e: Incorporate the Spokane County Community Wildfire Protection Plan into the Spokane County Comprehensive Plan, where applicable.	**Protection of people and structures** by dovetailing this planning process with other County planning documents. Planning Priority: High	**Lead:** Spokane County Commissioners Office **Support:** Spokane County Planning Department.	Ongoing: Incorporate the goals and projects outlined in this plan into the updated Comprehensive Plan.
5.1.f: Consider adopting countywide regulations to insure fire-safe development of rural subdivisions (see FIREWISE or similar programs for specific recommendations).	**Protection of people and structures** by improving the ability of emergency services personnel to safely and effectively respond to home fires and decrease the overall fire risk in wildland urban interface areas. Planning Priority: High	**Lead:** Spokane County Planning Department **Support:** Spokane County Commissioners Office and Building Department, Spokane County Fire Districts #1-13, city fire departments, developers, and interested residents.	Year 1 (2008): Research fire-safety related programs such as FIREWISE to determine specific recommendations for policy changes regarding development of rural subdivisions. Year 2 – 3 (2009 – 2010): Begin gathering public support of new regulations. Produce and submit necessary documentation to facilitate County adoption of recommended regulations.
5.1.g: Consider developing a management plan to implement a fuels reduction program at recreational or high use areas and trailheads.	**Protection of people and structures by** reducing the risk of wildfire ignitions. Planning Priority: High	**Lead:** DNR, BLM, and USFWS, Spokane County, and WA Parks and Recreation **Support:** Spokane County Fire Districts #1-13.	Year 1 (2008): Work with land management agencies to identify potentially hazardous locations, particularly in high use areas and obtain funding to complete and implement a wildland fire management plan. Year 2 (2008): Complete management plan(s) and begin implementation process..

Table 5.1. Action Items in Safety and Policy.

Action Item	Goals and Objectives	Responsible Organization	Timeline and Implementation Plan
5.1.h: Encourage the development of a separate fire marshal's office in Spokane County.	**Protection of people and structures by** improving fire departments' ability to complete fire inspections of new homes. Planning Priority: High	**Lead:** Spokane County Commissioners Office **Support:** Incorporated cities of Spokane, Spokane Valley, Deer Park, Cheney, Medical Lake, Airway Heights, Liberty Lake, Latah, Waverly, Rockford, Fairfield, Spangle, and Millwood, and Spokane County Fire Districts #1-13.	Year 1 (2008): Work with County Commissioners and public to develop a plan to fund a separate fire marshal's office. Year 2 (2009): Advertise position and hire best candidate.
5.1.i: Expand the existing debris chipping efforts to a coordinated program that includes the development of set public dump days at collection points throughout the County; thus, one mobile chipping operation can travel to each site, chip the materials, and haul the debris off site for disposal.	**Protection of people and structures by** improving the efficiency and effectiveness of existing chipping programs. Planning Priority: High	**Lead:** Spokane Clean Air **Support:** DNR, Conservation District, and Spokane County Fire Districts #1-13.	Year 1 (2008): Work with interested partners to put together a concerted effort to develop an effective chipping program. Year 2 (2009): Develop and implement the program.

5.4 People and Structures

The protection of people and structures will be tied together closely as the loss of life in the event of a wildland fire is generally linked to a person who could not, or did not, flee a structure threatened by a wildfire. The other incident is a firefighter who suffers the loss of life during the combating of a fire. Many of the recommendations in this section will define a set of criteria for implementation while others will be rather specific in extent and application.

Many of the recommendations in this section involve education and increasing awareness of the residents of Spokane County. These recommendations stem from a variety of factors including items that became obvious during the analysis of the public surveys, discussions during public meetings, and observations about choices made by residents living in the wildland-urban interface. Over and over, the common theme was present that pointed to a situation of landowners not recognizing risk factors:

- Fire district personnel pointed to numerous examples of inadequate access to homes of people who believe they have adequate ingress.
- Discussions with the general public indicated an awareness of wildland fire risk, but they could not generally identify risk factors.
- A large number of the respondents to the public mail survey (50%) indicated that they want to participate in educational opportunities focused on the WUI and what they can do to increase their home's chances of surviving a wildfire.

Residents and policy makers of Spokane County should recognize certain factors that exist today, that in their absence would lead to an increase in the risk factors associated with wildland fires in the WUI of Spokane County. The items listed below should be encouraged, acknowledged, and recognized for their contributions to the reduction of wildland fire risks:

Livestock grazing in and around the communities of Spokane County has led to a reduction of many of the fine fuels that would have been found in and around the communities and in the

wildlands of Spokane County. Domestic livestock not only eat these grasses, forbs, and shrubs, but they also trample certain fuels to the ground where decomposition rates may increase. Livestock ranchers tend their stock, placing additional sets of eyes into the forests and rangelands of the County where they may observe ignitions or potentially risky activities. Livestock grazing in this region should be encouraged in the future as a low cost, positive tool of wildfire mitigation in the wildland-urban interface and beyond.

Forest management in Spokane County has not been greatly affected by the reduction of operating sawmills in the region. The forest management program of the Washington Department of Natural Resources has led to some reduction of wildland fuels; however, there is significant room for growth in fuels reduction programs. In addition, many private and industrial forest landowners have implemented very active forest management programs that are leading to a significant decrease in high risk fuels. Furthermore, forests are dynamic systems that will never be completely free from risk. Treated stands will need repeated treatments to reduce the risk to acceptable levels in the long term.

Agriculture is a significant component of Spokane County's economy. The original conversion of these lands to agriculture from rangeland and forestland was targeted at the most productive soils and adjacency to water. Many of these productive rangeland ecosystems were consequently also at some of the highest risk to wildland fires because biomass accumulations increased in these productive landscapes. The result today is much of the landscape historically prone to frequent fires, has been converted to agriculture, which is at a much lower risk than prior to its conversion. The preservation of a viable agricultural economy in Spokane County is integral to the continued management of wildfire risk in this region.

Prescribed fire can be used as a tool in forest and rangeland management programs to accomplish several goals. Prescribed fire, when done correctly and in appropriate areas, can help reduce hazardous fuel loads. Prescribed fire has also been used to prepare sites for seeding or planting, improve wildlife habitat, manage competing vegetation, control insects and disease, improve forage for grazing, enhance appearance, and improve access.

Table 5.2. Action Items for People and Structures.

Action Item	Goals and Objectives	Responsible Organization	Timeline and Implementation Plan
5.2.a: Implementation of youth and adult wildfire educational programs.	**Protect people and structures** by increasing awareness of WUI risks, how to recognize risk factors, and how to modify those factors to reduce risk. Non-Planning Priority: High	Cooperative effort including: • Washington Department of Natural Resources • Washington State University Extension • State and Private Forestry Offices • Bureau of Land Management • U.S. Fish and Wildlife Service • Local School Districts • Spokane County Conservation District • Local Non-governmental Community Organizations • Local Fire District and Departments in Spokane County • Incorporated cities and communities of Spokane County	Year 1 (2008): Obtain funding for needed personnel and materials. Year 2 (2009): Formal needs assessment should be the responsibility of WSU Extension and include the development of an integrated WUI educational series.
5.2.b: Wildfire risk assessments of homes.	**Protect people and structures** by increasing awareness of specific risk factors of individual home sites in the at-risk landscapes. Non-Planning Priority: High	**Lead:** Washington DNR and Spokane County Fire Districts #1-13 **Support:** Spokane County Conservation District, NRCS, and local community organizations	Year 1 (2008): Secure funding and develop prioritized list of project areas. Year 2-4 (2009-2011): Complete the inspections, data development, and homeowner interviews.
5.2.c: Home site defensible space treatments.	**Protect people, structures, and increase firefighter safety** by reducing the risk factors surrounding homes in the WUI of Spokane County. Non-Planning Priority: Medium	**Lead:** Washington DNR and Spokane County Fire Districts #1-13 **Support:** Spokane County Conservation District, NRCS, local community organizations, private homeowners, and city fire departments.	Year 1 (2008): Secure funding and begin project planning. Years 2-5 (2009-13): Conduct home site defensible space treatments to reduce high risk fuels, landscaping, construction materials, etc. immediately surrounding homesites.
5.2.d: Community defensible zone treatments.	**Protect people, structures, and increase firefighter safety** by reducing the risk factors surrounding high risk communities in the WUI of Spokane County. Non-Planning Priority: High	**Lead:** Washington DNR and Spokane County Fire Districts #1-13 **Support:** Spokane County Conservation District, NRCS, local community organizations, private homeowners, and city fire departments.	Year 1 (2008): Secure funding and begin project planning. Years 2-5 (2009-13): Treat high risk wildland fuels from home site defensible space treatments to an area extending 400 feet to 750 feet beyond home defensible spaces, where steep slopes and high accumulations of risky fuels exist near homes and infrastructure. Should link together home treatment areas. Treatments target high risk concentrations of fuels and not 100% of the area identified.

Table 5.2. Action Items for People and Structures.

Action Item	Goals and Objectives	Responsible Organization	Timeline and Implementation Plan
5.2.e: Maintenance of home site defensible space treatments.	**Protect people, structures, and increase firefighter safety** by reducing the risk factors surrounding homes in the WUI of Spokane County. Non-Planning Priority: High	**Lead:** Washington DNR and Spokane County Fire Districts #1-13 **Support:** Spokane County Conservation District, NRCS, local community organizations, private homeowners, and city fire departments.	Year 5 (2012): Reassess home and community defensible space project sites for needed maintenance. Each site should be assessed 5 years following initial treatment. Home site defensibility treatments must be maintained periodically to sustain benefits of the initial treatments.
5.2.f: Develop educational handbook regarding construction in high risk wildfire areas to be handed out with building permits.	**Protect people, structures, and increase firefighter safety** by reducing the risk factors surrounding homes in the WUI of Spokane County. Non-Planning Priority: Medium	**Lead:** Washington State University Extension **Support:** Spokane County Fire Districts #1-13, Spokane County Conservation District, Spokane County Building Department, and DNR.	Year 1 (2008): Obtain funding to complete the project. Develop information and materials to be included in handbook. Year 2 (2009): Put together the handbook and print copies to have on hand at county and city building offices and fire departments.

5.5 Infrastructure

Significant infrastructure refers to the communications, transportation (road and rail networks), energy transport supply systems (gas and power lines), and water supply that service a region or a surrounding area. All of these components are important to northeastern Washington and to Spokane County specifically. These networks are by definition a part of the wildland-urban interface in the protection of people, structures, **infrastructure**, and unique ecosystems. Without supporting infrastructure a community's structures may be protected, but the economy and way of life lost. As such, a variety of components will be considered here in terms of management philosophy, potential policy recommendations, and mitigation recommendations.

Table 5.3. Action Items for Infrastructure Enhancements.

Action Item	Goals and Objectives	Responsible Organization	Timeline and Implementation Plan
5.3.a: Support efforts to provide funding for upgrading the emergency service communication infrastructure to provide for better emergency response and notification countywide.	**Protect people, structures, and increase firefighter safety** by improving communication capabilities for emergency response personnel. Planning Priority: High	**Lead:** Emergency Communications Committee **Support:** Spokane County Commissioners Office, Spokane County Fire Districts 1-13, and incorporated cities of Spokane, Spokane Valley, Deer Park, Cheney, Medical Lake, Airway Heights, Liberty Lake, Latah, Waverly, Rockford, Fairfield, Spangle, and Millwood.	Year 1 (2008): Work together to implement public campaign to garner support for a levy that would provide funding for the Combine Communications Center improvement and upgrade project.
5.3.b: Improve access by evaluating and/or addressing load limits on privately-owned bridges.	**Protection of people, structures, infrastructure, and economy** by improving access for residents and firefighting personnel in the event of a wildfire. Reduce the risk of a road failure that leads to the isolation of people or the limitation of emergency vehicle and personnel access during an emergency. Non-Planning Priority: Medium	**Lead:** Spokane County Building and Planning Departments **Support:** Spokane County Commissioners Office, Spokane County Fire Districts #1-13, and private landowners.	Year 1 (2008): Update existing assessment of private bridges in Spokane County as to location. Secure funding for implementation of this project (grants). Year 2-3 (2009-10): Conduct engineering assessment of limiting weight restrictions for all bridges that are not currently rated. Year 4 (2011): Post weight restriction signs on all limiting crossings, copy information to rural fire districts and wildland fire protection agencies in affected areas.
5.3.c: Improve access by conducting roadside fuels treatments.	**Protection of people, structures, infrastructure, and economy** by improving access for residents and firefighting personnel in the event of a wildfire. Allows for a road based defensible area that can be linked to a terrain based defensible areas. Non-Planning Priority: High	**Lead:** Spokane County Fire Districts #1-13 and DNR **Support:** County Public Works, State of Washington (Lands and Transportation), BLM, USFWS, and private landowners.	Year 1 (2008): Update existing assessment of roads in Spokane County as to location. Secure funding for implementation of this project (grants). Year 2-4 (2009-11): Identify highest priority areas and begin project implementation.
5.3.d: Work with local utility companies to insure power line corridors are kept free of trees, brush, and other debris.	**Protection of people, structures, infrastructure, and economy** by decreasing the risk of ignitions from power lines. Planning Priority: High	**Lead:** Spokane County Fire Districts #1-13 and DNR **Support:** Utility companies	Year 1 (2008): Meet with identified partners and discuss options and potential improvements to current policies for the power line right-of-ways. Year 2 (2009): Develop recommendations to reduce the potential fire risk in power line corridors and discuss options with utility companies.

5.6 Resource and Capability Enhancements

There are a number of resource and capability enhancements identified by the rural and wildland firefighting districts in Spokane County. All of the needs identified by the districts are in line with increasing the ability to respond to emergencies and are fully supported by the Community Wildfire Protection Plan committee. The implementation of each project will rely on

either the isolated efforts of the fire districts or a concerted effort by the County to achieve equitable enhancements across all of the districts.

Table 5.4. Action Items for Firefighting Resource and Capability Enhancements.

Action Item	Goals and Objectives	Responsible Organization	Timeline and Implementation Plan
5.4.a: Enhance radio availability in each district, link in to existing dispatch, improve range within the region, and conversion to consistent standard of radio types.	**Protection of people and structures** by direct firefighting capability enhancements. Non-Planning Priority: High	**Lead:** Interoperable Communications Committee, Spokane County Fire Districts #1-13, and city fire departments **Support:** Spokane County Commissioner's Office and DNR	Year 1 (2008): Summarize existing two-way radio capabilities and limitations. Identify costs to upgrade existing equipment and locate funding opportunities. Year 2 (2009): Acquire and install upgrades as needed.
5.4.b: Retention of volunteer firefighters.	**Protection of people and structures** by direct firefighting capability enhancements. Planning Priority: High	**Lead:** Spokane County Fire Districts #1-13 and city fire departments **Support:** Wildland fire agencies working with a broad base of County citizenry.	Target an increased recruitment (+10%) and retention (+20% longevity) of volunteers. Year 1 (2008): Develop incentives program and implement it.
5.4.c: Establish and map onsite water sources such as hydrants or underground storage tanks and drafting or dipping sites countywide.	**Protection of people and structures** by direct firefighting capability enhancements. Non-Planning Priority: High	**Lead:** Spokane County GIS Department **Support:** Spokane County Commissioner's Office, DNR, Spokane County Fire Districts #1-13, and city fire departments.	Year 1 (2008): Identify populated areas lacking sufficient water supplies and develop project plans to develop a permanent water source or drafting/dipping sites. Implement project plans and begin mapping (GPS) known water sources and drafting/dipping sites to be provided to fire response agencies and County offices.
5.4.d: Increase training and capabilities of firefighters.	**Protection of people and structures** by direct fire fighting capability enhancements. Planning Priority: High	**Lead:** Spokane County Fire Districts #1-13 and city fire departments **Support:** Spokane County Emergency Manager, DNR, USFWS, and BLM for wildland training opportunities and with the State Fire Marshall's Office for structural firefighting training.	Year 1 (2008): Develop a multi-County training schedule that extends 2 or 3 years in advance (continuously). Identify funding and resources needed to carry out training opportunities and sources of each to acquire. Year 1 (2008): Begin implementing training opportunities for volunteers.
5.4.e: Improve safety equipment and personal protective equipment for all fire districts in Spokane County.	**Protection of people and structures** by direct firefighting capability enhancements. Non-Planning Priority: High	**Lead:** Spokane County Fire Districts #1-13 and city fire departments **Support:** BLM, DNR, USFWS, and local community organizations	Year 1 (2008): Complete an inventory of all supplies held by the Fire Districts (boots, turnouts, Nomex, gloves, modern lighting, straps, and hardware), and complete a needs assessment matching expected replacement schedule. Develop Countywide re-supply process for needed equipment.

Table 5.4. Action Items for Firefighting Resource and Capability Enhancements.

Action Item	Goals and Objectives	Responsible Organization	Timeline and Implementation Plan
5.4.f: Support the maintenance and/or enhancement of state and federal firefighting programs and resources in Spokane County.	**Protection of people and structures** by direct wildland firefighting capability enhancements. Planning Priority: High	**Lead:** DNR, BLM, USFWS **Support:** County Commissioners, Washington State Patrol, Spokane County Fire Districts #1-13, and city fire departments.	Ongoing: Provide community and County support for the State and Federal fire and firefighting programs within the County. Assist State and Federal fire programs raise awareness of wildland fire issues in local communities.
5.4.g. Obtain funding for an exhaust removal system for Spokane County Fire District #5.	**Protection of people and structures** by direct firefighting capability enhancements. Non-Planning Priority: Low	**Lead:** Spokane County Fire District #5.	Year 1 (2008): Verify stated need still exists, develop budget, and locate funding and equipment (surplus) sources. Year 1 or 2 (2008-09): Acquire and deliver needed materials and equipment.
5.4.h. Provide additional funding for staff at the Cheney Fire Department.	**Protection of people and structures** by direct firefighting capability enhancements. Non-Planning Priority: Medium	**Lead:** Cheney Fire Department	Year 1 (2008): Verify stated need still exists, develop budget, and locate funding and equipment (surplus) sources. Year 1 or 2 (2008-09): Acquire and deliver needed materials and equipment.
5.4.i: Facility, land, and basic equipment for a joint station for Spokane County Fire Districts #5 and #10.	**Protection of people and structures** by direct firefighting capability enhancements. Non-Planning Priority: Medium	**Lead:** Spokane County Fire Districts #5 and #10	Year 1 (2008): Verify stated need still exists, develop budget, and locate funding and equipment (surplus) sources. Year 1 or 2 (2008-09): Acquire and deliver needed materials and equipment.
5.4.j: Support the acquisition of new and updated rolling stock and other equipment for each fire district or department in Spokane County.	**Protection of people and structures** by direct firefighting capability enhancements. Planning Priority: High	**Lead:** Spokane County Fire Districts #1-13 and city fire departments.	Year 1 (2008): Verify stated need still exists, develop budget, and locate funding and equipment (surplus) sources. Year 1 or 2 (2008-09): Acquire and deliver needed materials and equipment.
5.4.k: Improve mapping of high fire risk areas to include additional features such as low load capacity bridges, etc.	**Protection of people and structures** by direct firefighting capability enhancements. Planning Priority: High	**Lead:** Spokane County Fire Districts #1-13 **Support**: Spokane County GIS Department	Year 1 (2008): Verify stated need still exists, develop budget, and locate funding and equipment (surplus) sources. Year 1 or 2 (2008-09): Acquire and deliver needed materials and equipment.
5.4.l: Obtain funding for mobile repeater for Spokane County Fire District #10 to improve communication capabilities in the Deep Creek area.	**Protection of people and structures** by direct firefighting capability enhancements. Non-Planning Priority: Medium	**Lead:** Spokane County Fire District #10	Year 1 (2008): Verify stated need still exists, develop budget, and locate funding and equipment (surplus) sources. Year 1 or 2 (2008-09): Acquire and deliver needed materials and equipment.

Table 5.4. Action Items for Firefighting Resource and Capability Enhancements.

Action Item	Goals and Objectives	Responsible Organization	Timeline and Implementation Plan
5.4.m: Facility, land, and basic equipment for an additional station in Spokane County Fire District #3 (Thomas Mallon-Hallot area) and continued support for construction of Aspen Meadows station.	**Protection of people and structures** by direct firefighting capability enhancements. Non-Planning Priority: Medium	**Lead:** Spokane County Fire District #3	Year 1 (2008): Verify stated need still exists, develop budget, and locate funding and equipment (surplus) sources. Year 1 or 2 (2008-09): Acquire and deliver needed materials and equipment.
5.4.n: Improve funding for educational materials including station internet capabilities and website administration for Spokane County Fire District #5.	**Protection of people and structures** by direct firefighting capability enhancements. Non-Planning Priority: Medium	**Lead:** Spokane County Fire Districts #5.	Year 1 (2008): Verify stated need still exists, develop budget, and locate funding and equipment (surplus) sources. Year 1 or 2 (2008-09): Acquire and deliver needed materials and equipment.
5.4.o: Obtain funding for automatic generators.	**Protection of people and structures** by direct firefighting capability enhancements. Non-Planning Priority: High	**Lead:** Spokane County Fire Districts #1-13 and city departments	Year 1 (2008): Verify stated need still exists, develop needs assessment and budget, and locate funding and equipment (surplus) sources. Year 1 or 2 (2008-09): Acquire and deliver needed materials and equipment.
5.4.p: Facility, land, and basic equipment for additional stations in the Elk-Chattaroy and Eloika Lake areas within Spokane County Fire District #4.	**Protection of people and structures** by direct firefighting capability enhancements. Non-Planning Priority: Medium	**Lead:** Spokane County Fire Districts #4	Year 1 (2008): Verify stated need still exists, develop needs assessment and budget, and locate funding and equipment (surplus) sources. Year 1 or 2 (2008-09): Acquire and deliver needed materials and equipment.
5.4.q: Install additional water supply resources in Spokane County Fire District #13.	**Protection of people and structures** by direct firefighting capability enhancements. Non-Planning Priority: Medium	**Lead:** Spokane County Fire Districts #13	Year 1 (2008): Verify stated need still exists, develop needs assessment and budget, and locate funding and equipment (surplus) sources. Year 1 or 2 (2008-09): Acquire and deliver needed materials and equipment.
5.4.r: Increase funding specifically for fixed-wing aerial fire suppression support to be located in Spokane County.	**Protection of people and structures** by direct firefighting capability enhancements. Non-Planning Priority: High	**Lead:** DNR **Support**: Spokane County Fire Districts #1-13 and local residents	Year 1 (2008): Verify stated need still exists, develop needs assessment and budget, and locate funding and equipment sources. Year 1 or 2 (2008-09): Acquire and deliver needed materials and equipment.

5.7 Proposed Project Areas

The following project areas were identified by the CWPP planning committee as having multiple factors contributing to the potential wildfire risk to residents, homes, infrastructure, and the ecosystem. Treatments within the project areas will be site specific, but will likely include homeowner education, creation of a wildfire defensible space around structures, fuels reduction,

and access corridor improvements. Specific site conditions may call for other types of fuels reduction and fire mitigation techniques as well.

The Washington Department of Natural Resources, U.S. Fish and Wildlife Service, Bureau of Land Management, Spokane County Conservation District, and/or individual fire protection districts may take the lead on implementation of many of these projects; however, project boundaries were purposely drawn without regard to land ownership in order to capture the full breadth of the potential wildland fire risk. Coordination and participation by numerous landowners will be required for the successful implementation of the identified projects.

The estimated project cost was calculated by assuming an average treatment cost of $700 per structure ($400 per parcel for non-or sparsely forested areas and $1000 per parcel in forested areas) for defensible space projects, $250 per acre for fuels reduction projects, and $700 per acres for roadside fuels treatments. Cost estimates assume that no revenue was generated by the removal of timber or other product and that only 100% of the property owners participate in the project. Defensible space projects may include, but are not limited to commercial or precommercial thinning, pruning, brush removal, chipping, prescribed burning, installation of greenbelts or shaded fuel breaks, and general forest health improvements.

The top projects in each SPA were given a priority ranking of #1-3 based on the recommendations of committee members.

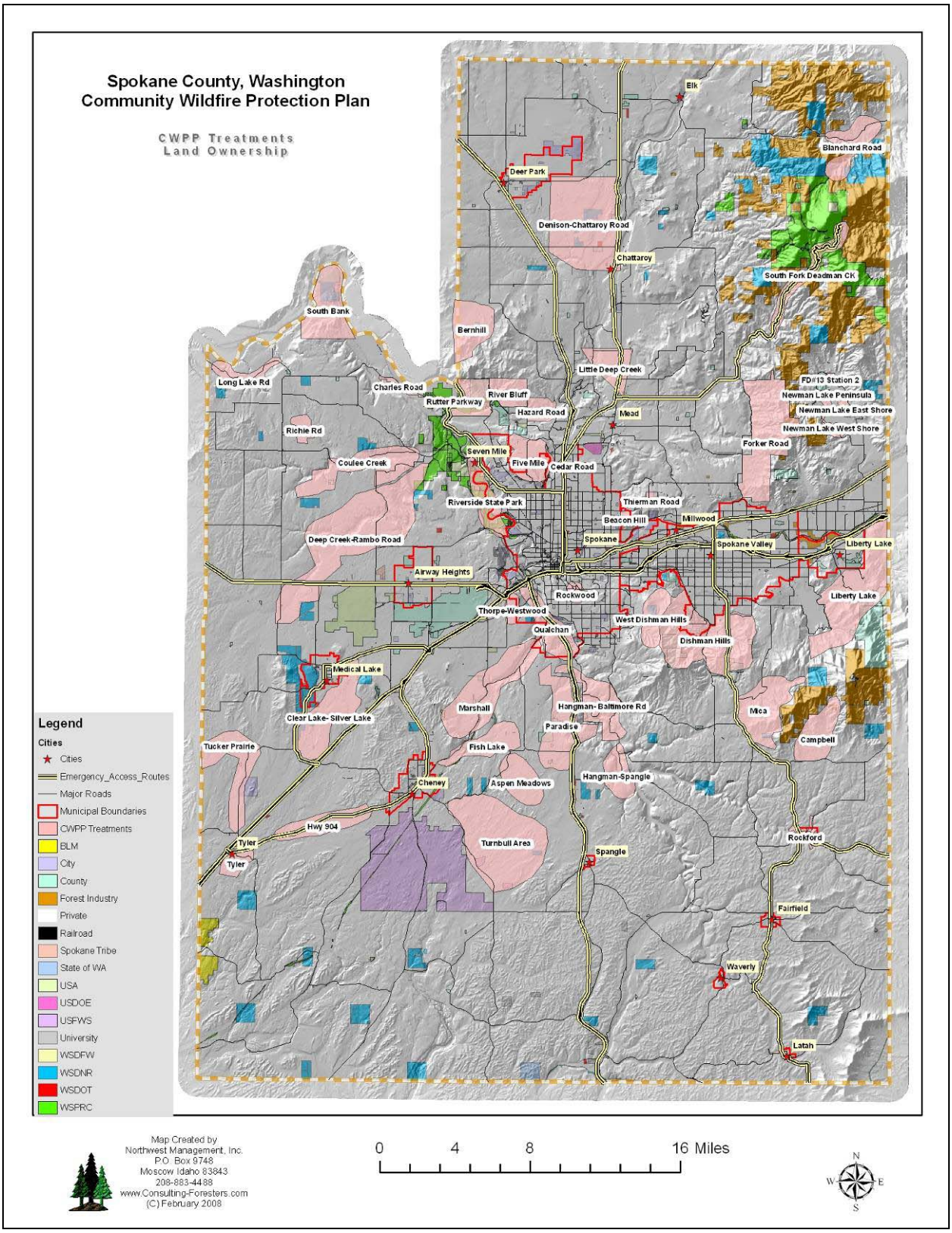
Table 5.5. Proposed Project Areas.

Strategic Planning Area	Project Name	Project Type	# of Acres	# of Structures	Miles of Road	Estimated Project Cost	Priority Ranking
1	Bernhill	Defensible Space	3,478	129		$90,300	2
1	Denison-Chattaroy Road	Fuel Reduction, Defensible Space, Access, Roads	11,241	811	9.4	$3,537,115	1
1	Hazard Road	Fuels Reduction	1,167	27		$291,800	3
1	Little Deep Creek	Fuels Reduction	2,467	1,039		$616,804	
1	South Fork Deadman CK	Bridge Issues, Poor Phone Service	2,795	118		$250,000	
2	Blanchard Road	Fuels Reduction	3,178	60		$794,590	3
2	Newman Lake East Shore	Access, Defensible Space	342	183	2.5	$170,450	1
2	Newman Lake West Shore	Access, Defensible Space	630	308	3	$266,420	2
3	Coulee Creek	Bridge Issues, Fuels Reduction	5,008	249		$1,451,967	
3	Deep Creek-Rambo Road	Fuels Reduction	14,481	1,069		$3,620,263	1
3	Long Lake Rd	Access, Fuels Reduction, Defensible Space	1,667	48	4.4	$524,858	
3	Richie Rd	Fuel Reduction, Defensible Space	788	74		$248,848	2
3	Thorpe-Westwood	Access	740	192	2.3	$38,962	3
4	Beacon Hill	Fuels Reduction	223	5		$55,848	
4	Liberty Lake	Fuels Reduction, Defensible Space	8,570	787		$2,693,361	1
4	Qualchan	Fuels Reduction, Defensible Space	3,210	1,594		$1,918,229	3

Table 5.5. Proposed Project Areas.

Strategic Planning Area	Project Name	Project Type	# of Acres	# of Structures	Miles of Road	Estimated Project Cost	Priority Ranking
4	Riverside State Park	Fuels Reduction	2,714	444		$678,544	2
4	Rockwood	Defensible Space	523	1,456		$1,019,200	
5	Campbell	Defensible Space, Access	3,269	59	5.0	$126,000	1
5	Rockford	Fuels Reduction, Defensible Space	708	264		$361,847	2
6	Aspen Meadows	Fuels Reduction, Defensible Space	2,796	191		$832,703	1
6	Clear Lake- Silver Lake	Fuels Reduction, Defensible Space	5,608	703		$1,894,135	3
6	Fish Lake	Fuels Reduction, Defensible Space	2,881	157		$830,025	
6	Hangman-Spangle	Fuels Reduction, Defensible Space	2,190	38		$573,982	
6	Hwy 904	Fuels Reduction, Defensible Space	3,031	93		$822,931	
6	Marshall	Fuels Reduction, Defensible Space	6,961	434		$2,043,925	2
6	Paradise	Fuels Reduction, Defensible Space	5,470	399		$1,646,775	
6	Tucker Prairie	Fuels Reduction, Defensible Space	4,432	156		$1,217,188	
6	Turnbull Area	Fuels Reduction, Defensible Space	11,425	148		$2,959,794	
6	Tyler	Fuels Reduction, Defensible Space	1,315	82		$386,142	
7	Cedar Road	Fuels Reduction	227	107		$56,732	
7	Charles Road	Fuels Reduction	309	42		$77,207	1
7	Five Mile	Access	2,728	1,483	5.1	$86,394	
7	Forker Road	Fuels Reduction	8,092	335		$2,022,921	3
7	River Bluff	Defensible Space	1,828	34		$23,800	
7	Rutter Parkway	Fuels Reduction, Defensible Space, Access	2,448	92	6.2	$676,408	
7	South Bank	Fuels Reduction, Defensible Space	4,407	161		$1,214,448	2
7	Thierman Road	Fuels Reduction	295	21		$73,695	
8	Dishman Hills	Defensible Space	9,684	1,990		$1,393,000	1
8	Hangman-Baltimore Rd	Fuels Reduction, Defensible Space	3,811	393		$1,227,850	3
8	Mica	Defensible Space	4,894	178		$124,600	
8	West Dishman Hills	Defensible Space	2,045	124		$86,800	2

Figure 5.1. Map of Proposed Projects



5.8 Regional Land Management Recommendations

Reference has been given to the role that forestry, grazing and agriculture have in promoting wildfire mitigation services through active management. Much of Spokane County is currently transitioning from rural agricultural or forest and rangeland to subdivisions and isolated developments around the outskirts of the city and in other desirable areas.

Wildfires will continue to ignite and burn depending on the weather conditions and other factors enumerated earlier. However, active land management that modifies fuels, promotes healthy range and forestland conditions, and promotes the use of these natural resources (consumptive and non-consumptive) will insure that these lands have value to society and the local region. We encourage the Bureau of Land Management, State Parks, the Washington Department of Natural Resources, the Fish and Wildlife Service, industrial forestland owners, private forestland owners, and all agricultural landowners in the region to actively manage their wildland-urban interface lands in a manner consistent with reducing fuels and risks.

The following sections help identify were some of the land management agencies in Spokane County have completed, current, planned, or proposed fuel reduction projects. Knowing where agency projects are located can help this committee as well as other agencies prioritize their own fuels projects. Simultaneous fuels reduction projects occurring on adjacent properties is not only encouraged, but this can also help cut down on costs.

5.8.1 Washington Department of Natural Resources

The projects depicted on the following map were recently completed or are in progress on DNR trust lands. The management goal on these lands is primarily forest health and hazardous fuels reduction. They included commercial and pre-commercial thinning, pruning, chipping, and/or mastication of overstocked stands to improve forest health and reduce fire danger.

Figure 5.2. DNR Fuels Reduction Projects – North Spokane County.

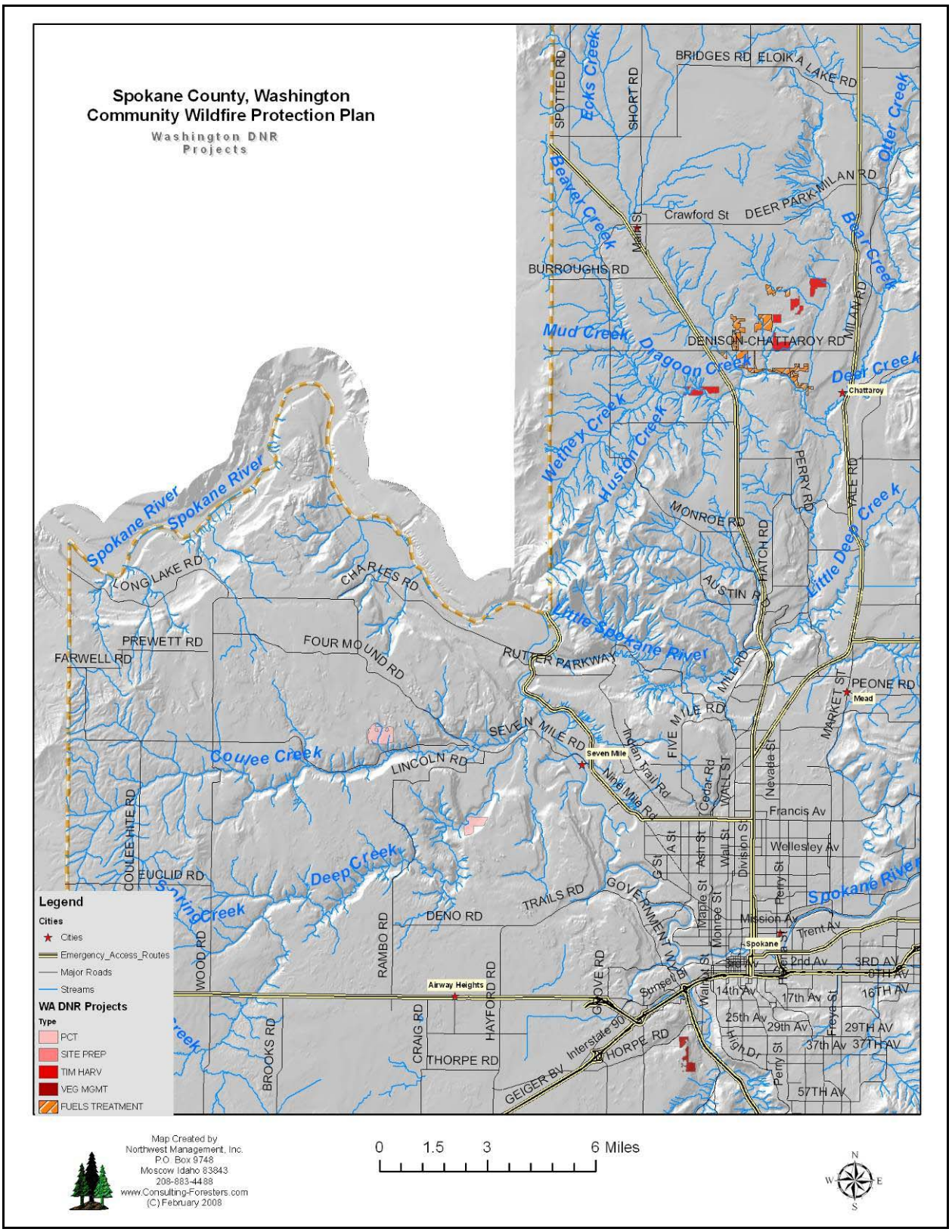
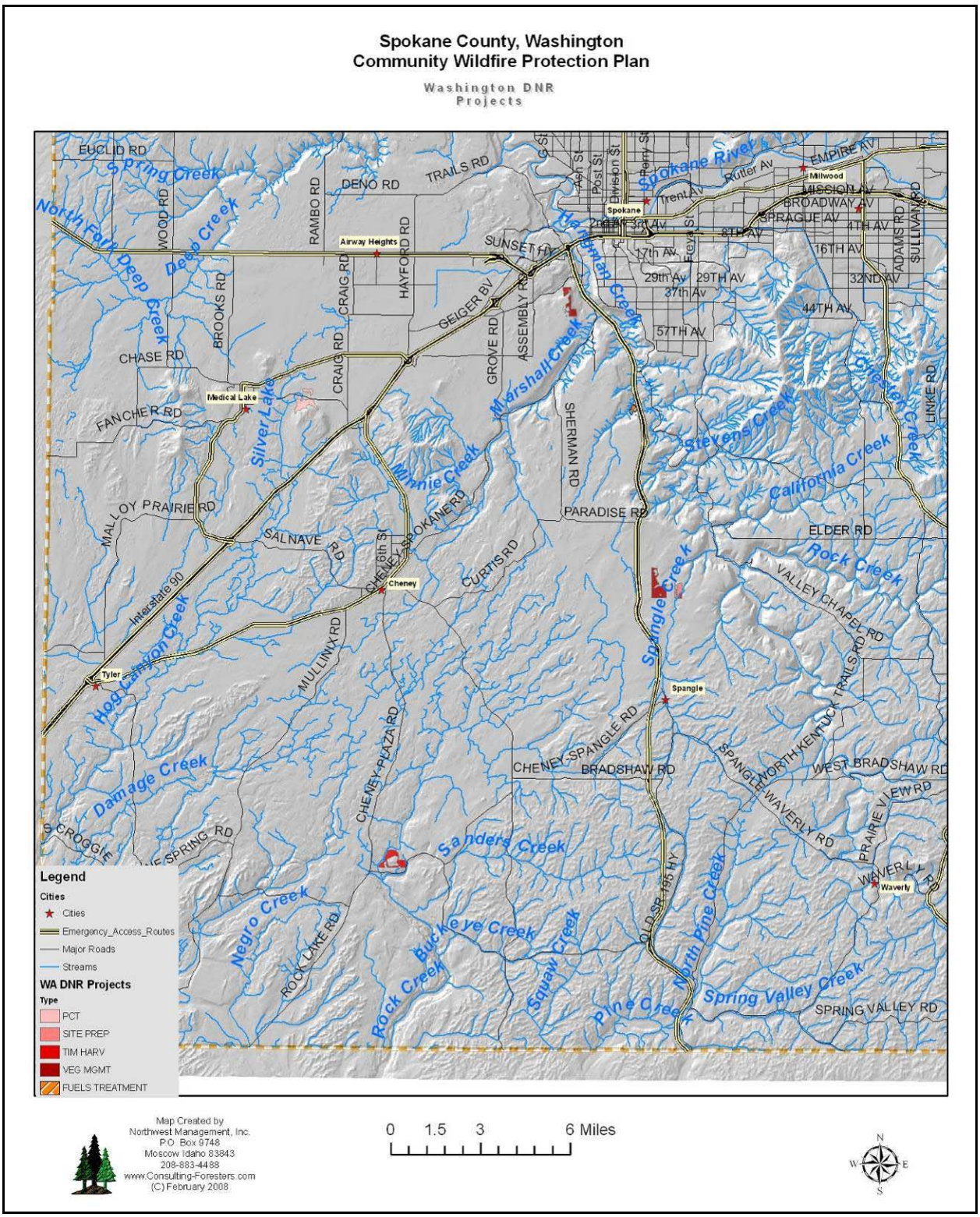


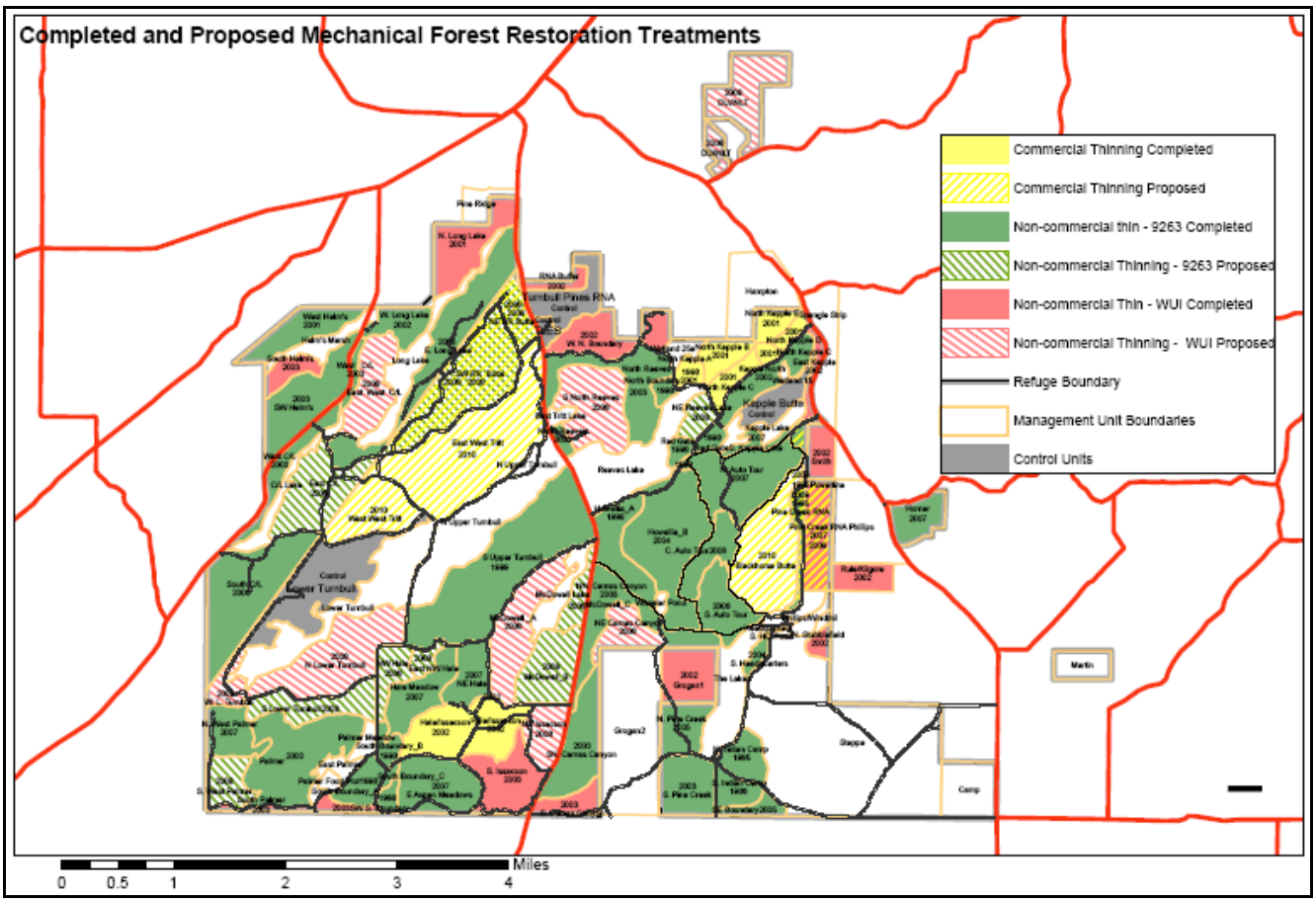
Figure 5.3. DNR Fuels Reduction Projects – North Spokane County.



5.8.2 U.S. Fish and Wildlife Service

The projects depicted on the following map were recently completed or are in the planning stages on the Turnbull National Wildlife Refuge managed by the U.S. Fish and Wildlife Service.

Figure 5.4. Turnbull National Wildlife Refuge Project Map.



Chapter 6

6 Supporting Information

6.1 List of Tables

6.2 List of Figures

6.3 Potential Funding Sources

10.677 - Forest Land Enhancement Program	***Abstract:*** 10.677 Forest Land Enhancement Program (FLEP) FEDERAL AGENCY: DEPARTMENT OF ARGICULTURE, FOREST SERVICE AUTHORIZATION: Farm Security and Rural Investment Act of 2002. Public Law 107-171.
15.228 - National Fire Plan - Wildland Urban Interface Community Fire Assistance	***Abstract:*** 15.228 National Fire Plan - Wildland Urban Interface Community Fire Assistance FEDERAL AGENCY: BUREAU OF LAND MANAGEMENT, DEPARTMENT OF THE INTERIOR AUTHORIZATION: Department of the Interior and Related Agencies Appropriations Act of 2001, Title IV, Public Law 106-291.
10.054 - Emergency Conservation Program	***Abstract:*** 10.054 Emergency Conservation Program (ECP) FEDERAL AGENCY: FARM SERVICE AGENCY, DEPARTMENT OF AGRICULTURE AUTHORIZATION: Agricultural Credit Act of 1978, Title IV, Public Law 95-334, 16 U.S.C. 2201-2205, as amended.
10.679 - Collaborative Forest Restoration	***Abstract:*** 10.679 Collaborative Forest Restoration (CFRP) FEDERAL AGENCY: FOREST SERVICE, DEPARTMENT OF ARGICULTURE AUTHORIZATION: Secure Rural Schools and Community Self-Determination Act of 2000, Title VI-Community Forest Restoration, Public Law 106-393, Section 605, Establishment of Program.
97.017 - Pre-Disaster Mitigation (PDM) Competitive Grants	***Abstract:*** 97.017 Pre-Disaster Mitigation (PDM) Competitive Grants FEDERAL AGENCY: DEPARTMENT OF HOMELAND SECURITY AUTHORIZATION: Sec. 203 of the Robert T. Stafford Disaster Relief and Emergency Assistance Act, 42 USC 5133.
97.036 - Disaster Grants - Public Assistance (Presidentially Declared Disasters)	***Abstract:*** 97.036 Disaster Grants - Public Assistance (Presidentially Declared Disasters) FEDERAL AGENCY: DEPARTMENT OF HOMELAND SECURITY AUTHORIZATION: Robert T. Stafford Disaster Relief and Emergency Assistance Act, Public Law 93-288, 42 U.S.C. 5121 et seq.; Executive Order 12148; Reorganization Plan No. 3, 1978.
97.039 - Hazard Mitigation Grant	***Abstract:*** 97.039 Hazard Mitigation Grant (HMGP) FEDERAL AGENCY: DEPARTMENT OF HOMELAND SECURITY AUTHORIZATION: Robert T. Stafford Disaster Relief and Emergency Assistance Act, Section 404, 42 U.S.C. 5170c.
97.048 - Disaster Housing Assistance to Individuals and Households in Presidential Declared Disaster Zones	***Abstract:*** 97.048 Disaster Housing Assistance to Individuals and Households in Presidential Declared Disaster Zones FEDERAL AGENCY: DEPARTMENT OF HOMELAND SECURITY AUTHORIZATION: Robert T. Stafford Disaster Relief and Emergency Assistance Act, as amended by Public Law 106-390.
97.050 - Presidential Declared Disaster Assistance to Individuals and Households - Other Needs	***Abstract:*** 97.050 Presidential Declared Disaster Assistance to Individuals and Households - Other Needs FEDERAL AGENCY: DEPARTMENT OF HOMELAND SECURITY AUTHORIZATION: Robert T. Stafford Disaster Relief and Emergency Assistance Act, as amended by Public Law 106-390. This CFDA is for when State receives a grant from FEMA under Section 408(f) to administer the other needs provision. If a grant has not been requested by the State, the assistance is provided for under CFDA 97.048.

6.4 Signature Pages

This Spokane County Community Wildfire Protection Plan has been developed in cooperation and collaboration with the representatives of the following organizations, agencies, and individuals.

6.4.1 Resolution of Adoption by the Spokane County Commissioners

NO. 9-0269

BEFORE THE BOARD OF COUNTY COMMISSIONERS
OF SPOKANE COUNTY, WASHINGTON

IN THE MATTER OF THE SPOKANE COUNTY, WASHINGTON COMMUNITY WILDFIRE PROTECTION PLAN [AUGUST 7, 2008]) **RESOLUTION**

WHEREAS, pursuant to the provisions of RCW 36.32.120(6), the Board of County Commissioners of Spokane County (hereinafter sometimes referred to as the "Board") has the care of County property and the management of County funds and business; and

WHEREAS, effective November 1, 2004, a Hazard Mitigation Plan approved by the Federal Emergency Management Agency (FEMA) is required for Hazard Mitigation Grant Program (HMGP) and Pre-Disaster Mitigation Program (PDM) eligibility. HMGP and PDM programs provide funding, through state emergency management agencies, to support local mitigation planning and project to reduce potential disaster damages;

WHEREAS, a wildfire chapter is an element of a Local Hazard Mitigation Plan; and

WHEREAS, Spokane County has developed a Spokane County, Washington Community Wildfire Protection Plan (August 7, 2008) ("CWPP"). The CWWP is the result of analyses, professional cooperation and collaboration, assessments of wildfire risks and other factors considered with the intent to reduce the potential for wildfires to threaten people, structures, infrastructure, and unique ecosystems in Spokane County. A planning committee was responsible for implementing the preparation of the CWPP ("Committee"). The Committee was lead by Spokane County Commissioners in conjunction with the Spokane County Extension Office. The following agencies and organizations also participated in the planning process: City of Airway Heights, City of Deer Park, City of Liberty Lake, City of Medical Lake, City of Spokane, City of Spokane Valley, Northwest Management, Inc., Spokane City/County Emergency Management, Spokane County Commissioners/ County Departments, Spokane County Conservation District, Spokane County Fire Districts and Departments, Town of Fairfield, Town of Latah, Town of Millwood, Town of Rockford, Town of Spangle, Town of Waverly, U.S. Fish and Wildlife Service, Turnbull National Wildlife Refuge, Washington Department of National Resources, and Washington State University; and

WHEREAS, once a community wildfire protection plan is prepared, it is necessary for the community wildfire protection plan to be acknowledged and recognized by the local governing bodies; and

WHEREAS, the Committee has recommended to the Board of County Commissioners of Spokane County that the Board, as the local governing body of Spokane County, acknowledge the Spokane County, Washington Community Wildfire Protection Plan (August 7, 2008); and

WHEREAS, the Board of County Commissioners of Spokane County, based upon the recommendation of and request by the Committee, held a public hearing at 5:30 p.m. on Tuesday, March 24, 2009, to consider public testimony and take action on acknowledging the *Spokane County, Washington Community Wildfire Protection Plan (August 7, 2008)* with the clear understanding that in so doing the CWPP is for the benefit of the general public welfare and not any identifiable class of persons and further that such action will provide the basis for the Washington State Fire Prevention Office approval and eventual integration with Spokane County All Hazards Mitigation Plan. Acknowledging the CWPP does not require or commit the County or any other signatory thereto to take or complete any "Action Item" addressed within the CWPP or establish any liability for failure to complete any "Action Item".

NOW, THEREFORE, BE IT HEREBY RESOLVED by the Board of County Commissioners of Spokane County, pursuant to RCW 36.32.120(6) and after holding a public hearing and considering all testimony submitted thereat, that the Board does hereby acknowledges the *Spokane County, Washington Community Wildfire Protection Plan (August 7, 2008)* subject to the clear understanding that in so doing it is for the benefit of the general public health and welfare and not for the benefit of any specific person or class of persons and further such action will provide the basis for the Washington State Fire Prevention Office's approval and eventual integration with Spokane County All Hazards Mitigation Plan. Acknowledging the CWPP does not require or commit the County or any signatory thereof to take or complete any "Action Item" addressed within the CWPP or establish any liability for failure to complete any "Action Item".

PASSED AND ADOPTED this 24th day of March, 2009.

BOARD OF COMMISSIONERS SPOKANE COUNTY SEAL

BOARD OF COUNTY COMMISSIONERS
OF SPOKANE COUNTY, WASHINGTON

TODD MIELKE, Chair

ATTEST:

Daniela Erickson
Clerk of the Board

MARK RICHARD, Vice Chair

BONNIE MAGER, Commissioner

6.4.2 Signatures of Participation by Spokane County Fire District and Departments

This Community Wildfire Protection Plan and all of its components identified herein were developed in close cooperation with the participating entities listed.

Mike Thompson — 4/03/09

By: Chief, Mike Thompson
Spokane Valley Fire ~~District~~ Department — Date

By: Chief, Adam Branon — Date
Spokane County Fire District #2

Bruce Holle — 3-24-09

By: Chief, Bruce Holloway
Spokane County Fire District #3 — Date

By: Chief, Ed Lewis — Date
Spokane County Fire District #4

By: Chief, Kjell Anderson — Date
Spokane County Fire District #5

William E. Walkup — 4/2/09

By: Chief, William Walkup
Spokane County Fire District #8 — Date

By: Chief, William Walkup — Date
Spokane County Fire District #8

By: Chief, Robert Anderson — Date
Spokane County Fire District #9

By: Chief, Nick Scharff — Date
Spokane County Fire District #10

By: Chief, Stan Seehorn — Date
Spokane County Fire District #11

By: Chief, Bill Tensfeld
Spokane County Fire District #12

Date

By: Chief,
Spokane County Fire District #13

KEITH YAMANE

4/2/09
Date

By: Chief, Bobby Williams
Spokane Fire Department

4-2-09
Date

By: Chief, Bill Tensfeld
Latah Fire Department

Date

By: Chief, Mike Winters
Cheney Fire Department

Date

By: Chief, Bill Tensfeld
Waverly Fire Department

Date

By: Chief, Gino Palomino
Medical Lake Fire Department

Date

By: Chief, John Schoen
Airway Heights Fire Department

Date

Date

6.4.3 Signatures of Participation by other Spokane County Entities

This Community Wildfire Protection Plan and all of its components identified herein were developed in close cooperation with the participating entities listed.

By: , State Forester
Washington Department of Natural Resources

Date

R.E. Baden

By: Rich Baden, District Manager
Spokane County Conservation District

4/2/09
Date

Janean Creighton

By: Janean Creighton
Washington State University Extension

April 2, 2009
Date

By:
US. Fish and Wildlife Service, Turnbull NWR

Date

By:
Spokane City/County Emergency Management

Date

Tera R. King

By: Tera R. King, Project Manager
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March 24, 2009
Date

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